THE PHRENOLOGICAL JOURNAL AND LIFE ILLUSTRATED.

VOL. 64. 1877.

NUMBER 5.] *May, 1877.* [WHOLE No. 461.

WILLIAM A. WHEELER,

VICE-PRESIDENT OF THE UNITED STATES.

THE indications of the portrait before us are not to be mistaken by the phrenological reader. He at once estimates the character of Vice-President Wheeler at a high degree for sharpness of discernment, energy, and practical ability. The tempera-

ment is strongly mental, with about an equal proportion of the motive element; so that his conduct exhibits the blending of activity and force. The breadth, upward and backward from the ear, shows large Cautiousness, and gives us warrant for the inference, that however quick may be his impressions, however speedy his decisions mentally, in action he is prudent, moderate, deliberate. The poise of the head and its height at the crown declare the man who holds his convictions closely and earnestly, and who asserts his opinions with clearness and emphasis when it becomes necessary to assert them. He has little of that scheming element which is termed policy; and his organization is lacking in the qualities tending to duplicity. People do not have to think much over his statements of opinion to get at their meaning, and do not have occasion to ask him the same question twice. He is positive enough in expression, and plain even to bluntness. The top head in the portrait shows but a moderate endowment of Imitation, and we infer from that his indisposition to follow customs and fashions which do not commend themselves to his sense of utility. He appreciates duty and responsibility, and has little tolerance for those who shirk what of service and duty belongs to them. But those who seek to fulfill their obligations are warmly esteemed. He has little inclination to be polite and courteous, for the mere sake of showing regard for what society calls etiquette, but is disposed to treat matters squarely, to call white white and black black, to be concise and direct. Yet he appreciates the esthetics of life and character, having, as we infer, a good measure of Ideality; but art and taste he relegates to their proper place, and has in his thinking well-defined lines of distinction between the provinces of the useful and beautiful. In his habits he doubtless shows an appreciation of neatness, order, and even of delicacy, and that refined consideration of others which belongs to the gentleman.

His clear judgment, together with his superior capability in accumulating information, has rendered him of high value to those who are related to practical affairs. And his sound, conscientious regard for truth has won esteem; people who know him know that he gives them the best he has to offer in the way of experience and opinion, when they require his counsel.

We infer from the portrait that he has used his vital energy about as fast as it could be produced in his laboratory of physical nutrition, and there has been little, if any, left to soften the rugged and angular features of his character. A tenacious, enduring constitution has aided him in the furtherance of his aims in professional and public life, but no profusion of bodily vigor, no excess in the product of digestion and assimilation, have contributed their influence to mellow and sweeten in their general expression the activities of his mind. He has been earnest, sincere, truthful, upright, but—as we infer from the portrait—little inclined in later years to show conspicuously light, joyous, sprightly emotions, and so relieve the serious phases of his mental and physical activity.

William A. Wheeler, Vice-President of the United States, was born at Malone, Franklin County, N. Y., on the 30th June, 1819. His education appears to have been far from neglected; it being both academic and collegiate—the latter a two years' training in the University of Vermont. After which he entered upon the study of the law, and commenced its practice immediately upon his admission to the bar of his native county and State. He was a successful advocate almost at the very start, becoming very popular with his clients and neighbors. As an evidence of the esteem which his townsmen exhibited for him, we find him

nominated, while quite a young man, to be District Attorney of Franklin County, and, being elected, he filled the place for several years.

Next he was made a candidate for the State Assembly by the Whig interest, and was elected by a good majority. A second term followed, and then he retired from the arena of politics and gave himself to the prosecution of his profession and to some general business. He was cashier of a bank for fourteen years; then became President of the Ogdensburg and Rouse's Point Railroad, and continued an active supervisory officer for eleven years. The public affairs of New York had again enlisted his efforts and attention, and giving his hand to the Republican party in its youth, he was made the recipient of what honor it had to offer, being in 1858 elected a member of the State Senate. For two terms he acted as temporary chairman.

Next we find Mr. Wheeler in the Senate of the United States, representing the Congressional district composed by Franklin, Essex, and Clinton Counties, having been elected by a moderate majority. His term covered that turbulent and critical period when the nation was called to meet the opening exigencies of a civil war; and in the measures proposed and passed, Mr. Wheeler acted with the Anti-Slavery side and promoted the war policy. The history of the Thirty-seventh Congress contains that record.

From public to private life Mr. Wheeler now goes, and for four years enjoys a freedom which has been always acceptable to him. Again he appears in the character of a public officer—a member of the State Constitutional Convention, which assembled in June, 1868. He was elected to preside over its deliberations. After the adjournment of this Convention, Mr. Wheeler was nominated by the Republicans of the Seventeenth District for Congress again, and was elected. In this relation he served as Chairman of the Committee on the Pacific Railroad. From that time he was repeatedly returned to the Legislature of the nation. As a member of the Forty-third Congress, to which he was elected by nearly seven thousand majority, he performed eminent service on the Committee on Appropriations; but the part which brought him into most conspicuous notice was that of bringing about what is known as the "Wheeler Compromise." It will be remembered that the majority of a select committee had reported on the State of Louisiana, to the effect that the "Kellogg Government" was largely responsible for the misfortunes of that State, and was merely an usurpation of authority and should not be recognized by the nation. This view was very largely accepted by the Northern people. But the minority, of which Mr. Wheeler was one, reported that affairs in Louisiana owed their condition mainly to the want of education, particularly by the negro. Out of these two reports arose the double-sided complexion of the Louisiana Legislature, in being Republican in the Senate and Democratic in the House, while Mr. Kellogg retained the Governorship. This was the "Wheeler Compromise."

His views with regard to State and national policy are further indicated by his votes in connection with other important Congressional measures; viz., in favor of the land grant to the Texas Pacific Railroad, March, 1871; against a constitutional amendment providing that the "public lands of the United States, except mineral lands, shall not be disposed of except to actual settlers for homestead purposes only," March, 1872; in favor of a resolution reducing the appropriation for the Civil Service Reform Commission from $50,000 to $10,000, April, 1872; against Mr. Willard's Civil Service Reform bill, forbidding members of Congress to interfere in any way with Government appointments, April, 1872; against putting tea and coffee on the free list, March, 1871; in favor of reducing the tariff on certain articles ten per centum, May 8, 1872; in favor of removing the duty from coal and salt, February, 1872; and against the "Salary Grab" act.

Mr. Wheeler was appointed a member of the Board of Commissioners of the State Survey which was authorized by the New York Legislature in the spring of 1876.

What may be expected from his influence

in the new and responsible position which he now occupies, as the second officer of the nation, is very clearly expressed in his letter accepting the nomination of the Cincinnati Convention, the paragraphs of which, relating to those foremost questions of the currency, the ballot, and civil service, are annexed:

"The just obligations to public creditors—created when the Government was in the throes of threatened dissolution, and, as an indispensable condition of its salvation, guaranteed by the lives and blood of thousands of its brave defenders—are to be kept with religious faith, as are all the pledges subsidiary thereto and confirmatory thereof. In my judgment the pledge of Congress, of January 14, 1875, for the redemption of the notes of the United States in coin, is the plighted faith of the nation, and national honor, simple honesty, and justice to the people, whose permanent welfare and prosperity are dependent upon true money as the basis of their pecuniary transactions, all demand the scrupulous observance of this pledge; and it is the duty of Congress to supplement it with such legislation as shall be necessary for its strict fulfillment.

"In our system of government intelligence must give safety and value to the ballot. Hence the common schools of the land should be preserved in all their vigor, while, in accordance with the spirit of the Constitution, they and all their endowments should be secured by every possible and proper guaranty against every form of sectarian influence or control.

"There should be the strictest economy in the expenditures of the Government, consistent with its effective administration, and all unnecessary offices should be abolished.

"Offices should be conferred only upon the basis of high character and particular fitness, and should be administered only as public trusts, and not for private advantage.

"The foregoing are chief among the cardinal principles of the Republican party, and to carry them into full, practical effect is the work it now has in hand. To the completion of its great mission, we address ourselves in hope and confidence, cheered and stimulated by the recollection of its past achievements; remembering that, under God, it is to that party that we are indebted in this Centennial year of our existence for a preserved, unbroken Union; for the fact that there is no master or slave throughout our broad domains, and that emancipated millions look upon the ensign of the Republic as the symbol of the fulfilled declaration that all men are created free and equal, and the guaranty of their own equality, under the law, with the most highly favored citizen of the land. To the intelligence and conscience of all who desire good government, good will, good money, and universal prosperity, the Republican party—not unmindful of the imperfection and shortcomings of human organizations, yet, with the honest purpose of its masses, promptly to retrieve all errors and to summarily punish all offenders against the laws of the country—confidently submits its claims for the continued support of the American people."

Mr. Wheeler is of medium size, with a strong frame, full of nervous energy; his complexion shows a free, well-vitalized circulation, and his manner is spoken of as cordial and hearty in business and social life. We are of opinion that the party which selected him for the second place on their ticket showed a high degree of sagacity, and that he will fully meet expectation as a wise and efficient national officer.

IMPROVEMENT IN THE MORALITY OF OUR PUBLIC MEN.—A few weeks before his death, Vice-President Wilson was dining at the same table with a well-known Bishop of the Protestant Episcopal Church, who raised the question as to the degeneracy of our public men with each generation of the Republic. Mr. Wilson spoke at some length from his own long experience of public life, comparing the many Congresses of which he had been a member, and showing how rapidly and decidedly the moral character of their membership had risen during the recent decades of our history. Especially have drunkenness, profanity, and licentiousness decreased among public men. The heroes of forty and fifty years back, whose lives are the theme even

of our Sunday-school books, and whose characters are continually held up to the admiration and imitation of our young people, were almost to a man persons whose morals would not now bear inspection. And even the confusions and disturbances which occur in the halls of Congress, though sufficiently numerous and undignified, are as nothing to the disgraceful rows which once took place there.—*Penn Monthly.*

HISTOLOGICAL EVIDENCE OF A SOUL.

IN what follows, while giving the lay reader a general map of the progress of the science of tissues, it is my intention to indicate that histology has now to offer a very conclusive scientific demonstration of the existence of a soul in man—that is to say, of a psychic man, of whom the physically organic man is but a material symbol. The sordid materialism to which the cell-theory in its earlier forms steadily tended, has been so far corrected by later and deeper investigations as to admit of the superimposure of higher and more spiritual views of life upon the solid basis of induction; and it may now be held, not only without contradiction of the received tenets of physiology, but in strict harmony with its data:

1. That life is a *vis essentialis* in the acceptation of the term employed by the older physiologists, and that, in addition to the association of functions (*ensemble des fonctions*) constituting the normal activity of a living organism, there is a higher element to which such functions are subordinated.

2. That the soul is a psychic entity, coextensive with the nervous system, and through it, affecting, coördinating, and expressing its being in the *ensemble des fonctions* of the material body.

As I proceed with a brief *résumé* of the development of histological science it will be seen, I think, that modern investigation furnishes a very full and complete vindication of the view that the evolution of structures is a psychic process, and that a psychic principle enters intimately into the constitution of living bodies, coördinates the formation of tissues, and gives unity and law to all those operations of life that the microscope reveals.

The word tissue, Greek ἱστος, whence histology, the science of tissues, is employed by physiologists to designate any such special structure as bone, nerve, or muscle, and is hence a term of large and varying application. As a science, histology is indebted for its extraordinary development, during the last half a century, to the perfection of the microscope as an instrument of scientific investigation. For about two centuries after Jansen, of Holland, discovered the principle of the compound microscope, the instrument was still regarded by the learned world as a deceptive toy, which, in the hands of a few enthusiasts, such as Wolfe of the seventeenth century, had resulted in certain illusive and sensational doctrines of intimate structure; and although Baron Holler appears to have availed himself of the instrument to some extent in his work on physiology, that classic authority nowhere acknowledges his indebtedness, except in a single contested passage. Wolfe, Holler's contemporary, who laid the foundation of the science by many valuable discoveries, was treated as an impostor in his own day, and his work passed into a proverb for quackery, from the obloquy of which it has but lately been rescued by Prof. Huxley, who shows that he really anticipated many of the important doctrines of modern histology.

The science of tissues may be considered as having passed through three successive stages of development, commencing with the very early investigations of Wolfe, which, considering the then undeveloped capacity of the microscope, were conspicuously exact and comprehensive, and ending with those of Dr. Lionel S. Beale, of London, the author of a series of volumes on the evolution and intimate structure of nervous and other tissues, remarkable alike for extent and accuracy of observation and for striking originality of conclusion. The first stage, which includes the works of Wolfe, Malpighi, Leenwenhoeck, Spallanzani, and other cele-

brated names of the seventeenth and eighteenth centuries, was remarkable for the extent of its discoveries, but did not arrive at any demonstrable theory of the origin and development of tissues. The second, which must be limited to the thirty years from 1820 to 1850, was opened by Schwann and Schleiden, the propounders of the cell theory, which regards the cell as the first form of all living tissues, whether vegetable or animal, and such miscellular organisms as the monas (an infusorian) as the primordial types of life. During the progress of this theory the definition of the term cell suffered important modifications. With Schleiden and Schwann it was a very complex body, having a transparent spot at or near the center, surrounded by a less transparent matter designated as the cell-contents, and enclosed in a thin membranous sac styled the cell-wall. A nucleated white blood corpuscle presents the older conception of the cell in its most typical form. The nucleated amœba is another illustration. Presently blood corpuscles were observed in which no transparent spot was visible, and by and by it was found that the membranous envelope was by no means an invariable element, and that such organisms as the nucleated amœba must be regarded as very complex products, as compared with the simple and globular, but apparently structureless monas. As the old definition of the cell gave way before investigation, the protoplasmic theory of life obtained greater prominence under Huxley, Dujardin, and Beale, and the cell theory has been less insisted upon than it formerly was, under Ehrenberg, Henlé, Valentine, and others. This reaction against the cell-theory may be regarded as sufficiently distinguishing the existing doctrines of histology from those of the second stage in the development of that science, to justify scientific writers in grouping them together as the protoplasmic period. The term protoplasm was first employed by Remak about the year 1850, but is synonymous with surcode as employed by Dujardin, who must be regarded as the discoverer of this physical basis of life.

The view of the earlier expounders of the cell-theory was, that each cell was an organism leading an independent life as respects its own vital processes. According to this view, an animal body was a vast bee-hive of minute beings, each the seat of a special life, but all more or less subordinated to the purposes of the larger organism. To illustrate the point more clearly, a human brain was to the older microscopists an assemblage of innumerable little cells, each of which had a certain independence as a microscopic brain; and thus, from myriads upon myriads of little brains, some round, some elongated, some bipolar, others tripolar and multipolar, was built up that complex organ comprehensively described as the encephalon. Ehrenberg, of Berlin, was the first to give consistent development to this theory as respects the structure of the nervous system, and to regard it as a complex association of an infinite number of nervous centers, each having its own psychical life, but each subordinated to the associate psychic function of the mass. A muscular fiber, in a similar manner, is in its origin composed of a linear arrangement of these minute globular bodies; while, in connective tissue fibers, the filamentous structure seems to be due to the elongation and matting of the cells into a compact web—a process which may be observed in its various stages in the fœtal development of the abdominal integuments. Cuticle, again, is observed to consist of a tessellated arrangement of flattened cells, resembling minute transparent scales. But it is in the development of epithelial tissue that the comparatively unpracticed microscopist may most readily, with little preparation of his sections, find illustrations of the cell-theory in histology. The value of Ehrenberg's Memoir to the Academy of Sciences of Berlin, 1836, in simplifying the study of the nervous system, and unfolding the psychic processes, was incalculable to physiology. According to that memoir, for example, the fundamental conception of a nervous system may be regarded as a cell, in which psychic energy is generated, and a filamentous process by which its influence is propagated; and the complex nervous organism of a man consists of nothing more

than a systematic arrangement into larger centers and nerves, of a practically incomputable series of such fundamental types. In a similar way, under the proper treatment, bones, cartilages, mucous membranes, and other complex tissues are observed to consist of cells (the bioplasms of Dr. Beale) under various degrees of transformation.

Beautiful as this theory was, and sustained as it is by innumerable facts, more comprehensive investigations have resulted in raising many doubts as to the universality of the cell as a morphological unit, and its importance in that aspect appears to be waning. M. Robin, one of the most prominent microscopists of France, for example, regards the fiber as being as primary as the cell in the evolution of structures, and thus establishes two classes of morphological elements, the fibrous and the cellular; while, again, the generation of cells and fibers from amorphous protoplasm, is now agreed to be preceded by the phenomenon of granulation. According to these later doctrines, as a first step in the development of tissues, granules of such exceeding minuteness as only to be visible at 800 and 1,000 diameters, present themselves in the hitherto structureless and transparent mass. These granules, as observed in human blood, are of very uniform diameter, about $\frac{1}{800}$ of a millimetre; and, according to the latest observations in this department, it appears that by aggregation they form cells, and by linear approximation primitive fibrils. The preponderance of evidence thus seems to support the view that the monas (a very low type of cell organism) and the vibrio (a mere animated fiber) are equally primitive structures, and that the granule is properly the morphological unit from which all tissues are derived. Of the laws that determine the arrangement of granules into cells, on the one hand, and into fibrils, on the other, nothing whatever is known as yet. Very recent observations have contributed to show that, in the formation of cells, they arrange themselves in threes, fives, sevens, nines, elevens, and so on, in odd numbers rarely exceeding seventeen. In blood plasma, the tendency of such granules to arrange themselves into corpuscles may be very appreciably stimulated by adding a trace of hypophosphite of ammonia to the specimen under inspection; so that, as Dr. Lehmann was the first to remark, it is tolerably certain that the development of structure in amorphous protoplasm, is dependent upon the presence of a phosphorous trace in the compound, generally existing as a phosphate, but in nervous tissues usually taking the hypophosphite form. The evolution of the phosphorous trace and the development of the tendency to cell formation always accompany each other. The most common forms under which the former appears in living tissues are the phosphates of lime and magnesia; phosphite of ammonia, potash, and magnesia; nitrogenous and oleo-nitrogenous hypophosphites of lime, potash, soda, ammonia, and iron; hypophosphite in combination with albumen, and hydrated hypophosphorus acid in combination with oil.

The distinction between protagon, the special basis of nervous tissue, and protoplasm, the general basis of all tissues, consists in so simple a process as the disappearance of the sulphurous trace in the latter, and its substitution by hypophosphites; while, in the development of osseous, muscular, and areolar tissues, the phosphates of potash, soda, lime, magnesia, and iron are active agents; so that, under its various forms, this phosphorous trace may be designated as the organizer and tissue-generator of the animal and vegetable kingdoms, and the source of all the varied morphological phenomena illustrated in the growth of living bodies from a simple albuminoid basis. This basis may be studied in one of its simplest forms in fish-spawn and in the ova of higher animals. One noticeable feature in the history of the histological science should not be permitted to escape the attention of the general reader, and that is the constantly increasing simplicity of statement and view that has accompanied its more recent literature under Frey and Stricker in Germany, Robin in France, and Carpenter, Huxley, and Beale in England, as compared with the intricate and detailed theories of Schwann and Schleiden. This simplification of the science has been due mainly to the less stress that mod-

ern microscopists have been inclined to place upon the cell as a first form of tissue, and to the recognition of protoplasm as (though uniform in its constitution in the germ of the plant and the ovum of the animal) the material basis of life; together with a corresponding recognition of protagon, the special basis of nervous tissue, differing from protoplasm only in the substitution of a phosphorous for the sulphurous trace in the latter, as the material basis of all our psychic activities, and the source of the law of modality, by which like produces like. It is, for instance, the presence of a protagonous element in the wheat grain that determines the production of a wheat plant from the germinal matter contained in it. While, therefore, protoplasm is the vital and growing matter of all living bodies, whether animal or vegetable, its correlative, protagon, is that which coördinates its organization into tissues having special functions, and determines all its various morphological products; and, as protagon is only another name for nervous matter, it seems to be one of the inferences of modern histology, that morphology is a psychic process rather than a strictly vital one. The designing intelligence with which the old metaphysicians invested the processes of organic nature, a dream as it seemed to histologists thirty years since, finds a sufficient material substratum in our later and nicer investigations regarding the origin and development of tissues. To the elder cell-theorists, the larger life of an organism was simply the sum of millions of independent, but associated cell lives. In the light of recent histological doctrines, the larger life of the organism is seen to furnish the laws under which tissues are evolved, and to be the end toward which all morphological changes are directed, from the first organizing movements in the ovum to the adult development of the animal. Wolfe, the father of histological science, held this view, which was subverted during the eighteenth century, but has been substantially reaffirmed by later investigations.

It has been only in studies of very recent date that the universality of protagon—the special substratum of the psychic activities associated with life—has been comparatively demonstrated. Its coëxtent with protoplasm in vegetable as well as animal structures, is now one of the verities of science; but, so far as can yet be traced, it exists in the latter in an amorphous state, scattered and diffused, but extractible in small quantities. By patiently separating the inner cuticle of the wheat grain, and digesting it in alcohol, protagon is precipitated as a fatty substance, in the same manner as by mincing the animal brain and subjecting it to a similar treatment. It exists in the ova and blood of animals in an abundance nearly proportional to the comparative complexity of structure and function that the adult life of the animal illustrates. It is the proper physical basis, in a word, of that principle of order and beauty, of coherence and harmony, that informs all the operations of organic nature with the evidences of design, of adaptation to an end, and renders nature a psychical problem, appealing equally to the artistic, the emotional, and the rational elements of the soul.

At present, I have only set down a brief memorandum of something which may be elaborated hereafter, by way of assisting to resolve a possible doubt in the mind of some bewildered reader, as to there being any inductive evidence that man is a psychic entity. FRANCIS GERRY FAIRFIELD.

CANNIBALS IN POLYNESIA.—Until lately no attempt has been made to Christianize the islands known as New Britain and New Ireland, in Western Polynesia. Two years ago a number of Fijian converts, under the leadership of a noble Wesleyan missionary, and with the sanction of the Board, took their lives in their hands, and carried the Gospel to those benighted regions. They were received very kindly; neat chapels were erected, the natives supplying the labor and materials, and the work has begun with most favorable prospects. Meanwhile most interesting observations have been made of the customs of the natives of those distant islands. In race the people are strictly Papuan. They are nearly all cannibals. In

one house thirty-five human lower jaw-bones were counted, and a smoke-dried hand was hanging up, while outside the same house seventy-six notches in a cocoanut-tree were counted, each of which represented a human being who had been cooked and eaten there. In another village one of the party, going into a native house to light his pipe, found a woman roasting the thigh and leg of a man killed the day before. Nearly all the men and most of the women are quite naked, and yet seem to be fairly intelligent. In New Britain the natives affirm most positively the existence of a race of men with tails, with whom they are often at war, and when the missionaries expressed their doubts, they volunteered to waylay a specimen, and so compel their belief. They denied most indignantly the supposition that they must be monkeys, asking if monkeys fight with spears, plant yams, or build houses. —*National Repository.*

Physiognomy, or Signs of Character.

Of the soul the body form doth take,
For soul is form, and doth the body make.—*Spenser.*

RHINOLOGY, OR THE SCIENCE OF THE NOSE.

[FROM THE GERMAN.]

"TELL me what induced you to write such a work!" asked the Emperor Joseph, of Austria, of the pious minister and celebrated physiognomist Lavater, about a hundred years ago, when the latter had just published his "Physiognomic Fragments," "for the promotion of the knowledge of human nature and the love of mankind." Lavater answered: "While drawing portraits I observed peculiar similarities between certain features of some of my friends, as, for instance, similar noses. I directed my observations also to other parts, to individual features, outlines of the forehead, of the skull, of the bones, and at the same time to the disposition of the fundamental faculty of man, to the proportion of his activity and passivity; in general, to the susceptibility and power which are expressed in the structure of the face. More difficult to ascertain, but nevertheless more certain, are the demarkations expressive of character and activity in a tranquil face."

Fig. 1.

Lavater attained in this science a great superiority. "His insight," said Goethe, "into individual man was almost beyond conception; one was amazed in listening to him when conversing familiarly about this or that man; indeed, it was frightful to live near a man who could read every line which nature had imparted to our face. Thus, for instance, he discovered in a stranger, who once visited him, a murderer at first sight, although he was a man of culture and refinement." This knowledge he intended to establish and propagate as a science for the promotion of philanthropy, and already at that time he had indicated the afterward-developed doctrine of Human Nature. Anthropology, which is made use of by well-meaning Socialists, shows in criminals a Government's *own* crime, which is, as Bettina says, "partly a malady, that, instead of being punished, ought to be cured." Indeed, Physiognomy and Cranioscopy, or, more properly, Phrenology, with its correct

perception and judgment of the peculiar formation of man, will, if combined with real science, contribute greatly to the more humane treatment of delinquents, according to their nature and guilt. But in this study and science the hands, and even the feet, should not be left unnoticed. The so-called Chiromancy, or the art of fortune-telling, still practiced by gypsies, from the lineaments of the palm of the hand, pointed, in ancient times, toward the hand as belonging to Physiognomy.

Carus, of Dresden, wrote a very interesting article about the form of the hand; and an English writer has lately published a book about the thumb, and tried to point out that from the three joints and their proportions to each other, all the characteristics of men may be deduced. Perhaps we must even go down to the feet and the toes. The flat feet of the negroes have by some ethnologists been held out as an argument against their capacity for culture. Burmeister wrote a creditable physiognomical treatise on the foot. If this science, therefore, reaches from the foot to the head, we must not omit noticing whether a man's body is short or long, thick or thin, etc.; in short, we must obtain from all parts of the countenance and body all the wisdom which we believe may be discovered in relation to one's person, and thus secure a true judgment.

Fig. 2.

But it will nevertheless be interesting to inquire what and how much can be perceived in one's nose, for Lavater, in his "Physiognomy," commenced therewith. At first sight we find the most remarkable varieties in noses, as Roman, Greek, Jewish, Negro, frog, ram, eagle or hawk, stump, pug, and flat noses, fearful snuff or ferret, and shapeless bottle noses, which are stuck either dwarf-like above the upper lip, or bulged out like a gigantic cucumber, or like a shovel or the beak of certain marsh birds, etc. Other noses resemble, perhaps, a chisel, and sometimes the noses of drunkards are changed into copper-mines. In the following remarks we will consider some of the most important shapes of noses for the benefit of our readers, but without any malicious purpose of leading them by the nose.

In the first place, we will lay our finger on our nose, in order to try our sagacity in answering the following question: With what

Fig. 3.—Menelaus.

peculiarities of character is the nose in its different forms connected? It is, as known, the real promontory of the facial landscape, and equals the smaller side of a truncated cone, to which the head forms the shaft. Its distinction as an olfactory organ, or as the funnel of the lungs, does not come into consideration hereby. For us it is only the extended organ of expression for manifesting the inner character of men, and the mode and manner of its manifestations are therefore a guide to his conduct and appearance in society. A great deal, but not all, can be read on one's nose. The degree of energy for acting, of irritation, or indulgence, and self-command are frequently expressed in the structure of the nose. Just as the middle part of the head with the cheeks corresponds with our feelings, with our real "*Ego*," with all our inner life, so the nose, according to its form, discloses different inclinations of our *Ego*, or personality, in respect to our surroundings. One may probably hoax a man in different ways, but not through his own nose. Nose wisdom depends first upon the size of this note of exclamation in the face. It may indicate the strength of our natural disposition to muscular and mental activity; also the strength of the voice, and the degree of the inclination of the mind to influence by word

Fig. 4.

and action the outer world. The voice is stronger for acoustic reasons on account of a larger sound-board, whereby we may mention that speaking through the nose is less a natural defect than a consequence of neglect and of conceit, as we find conceited persons usually have the unpleasant habit of snuffling.

As a rule, the male sex has, together with more energy, a larger nose than the female sex, and woe to the man who can not set against the Amazon nose of his better half a comparatively larger proboscis! Men who take hold of their noses and think them comparatively large, should not triumph too soon, as the large nose will not always save them from petticoat government, much less when the nose is very strong toward the

Fig. 5.

front, while the chin is drawn back, as shown in profile, Fig. 1.

As military men excel through a decisive and independent behavior, so we find among them the largest and perhaps best noses; even a flat or snub-nosed country boy, after having been for some years in military training, assumes a better nose. The Jewish nose compares with the soldier nose only seemingly, as the upper part of their noses, the root, which is indicative of personal courage, is but feebly perfected. A large nose, without this sign of courage, only indicates the babbler, who thrusts his nose into every corner, as shown in profile No. 7, when a real heroic nose of an enterprising and energetic man is marked thereby, the root of the nose in the profile is set off prominently; for instances, compare the noses of Napoleon, Cæsar, Apollo, Hercules, Menelaus in Fig. 3, that of Diomed in Fig. 6, and of Achilles, with a babbling and spiritless nose, like that of Paris, in Fig. 7. In

Fig. 6.—Diomed.

short, large-nosed men will always appear comparatively more energetic, more quiet, and cold-blooded in all their activity and expressions than those with small noses.

Size, however, is only a very general idea in itself, from which but little can be inferred, as much depends upon its form and proportion to other parts of the face. In order to measure the size itself exactly, it is necessary to take into consideration the height, *i.e.*, the perpendicular distance of the line from the beginning to the end of the nose, and the breadth at the bridge, and the depth.

The height of the nose is certainly in

Fig. 7.—Paris.

proportion to the degree of power in the endurance of impressions on the mind and in the patience of submission. The one who submits to everything has a nose like the one in Fig. 8, whereas men of irritable

and impatient character may have a short, as also concave, nose, as shown in Figs. 9 and 2. Yet the owner of such a nose may evolve a great deal of energy, life, and cheerfulness, especially if, as in Fig. 9, the nose developes itself a little toward flatness.

The continually discontented, especially the professional political reformer, has neither a fine nor a high nose, but always a decidedly low one. At any rate, contentedness is dependent upon the height of the nose, and at the same time upon the lower jaw; therefore a face like that in Fig. 8 is without passion, and without passion there is no great achievement possible.

A broad nose indicates generally considerable bodily strength and want of elegance and fineness in motion, and the possessor of such a one is more suited to struggle and

Fig. 8.

herculean work; whereas the possessor of a fine small nose distinguishes himself in mental achievements in the drawing-room. If the small and fine nose belong to a murderer, he will choose as a weapon the dagger, but the criminal with a broad nose will grip the ax or club. The noses shown on antique works of art are almost always broad, especially the front line, which not seldom forms a flat surface, whereas modern noses of a higher intellect are more or less sharpened.

The depth of the nose—the distance from the tip to the jaw—has some meaning; it denotes energy and muscular activity, and especially voice. The more an animal is developed in intelligence, the more its nose projects from the mass of the upper jaw, or cheek. The upper jaw of animals stretches more or less forward, so that the profile (facial angle), instead of being, as by men, almost perpendicular, is nearly horizontal.

Fig. 9.

Without going into further and uncertain details, we will only remark that the more the nose projects, the more the instincts and passions are developed, and *vice versa*. Thus we may not annoy with impunity the owner of a strongly-projecting and pointed nose and upper jaw, as in Fig. 5. The injudicious and assuming man has always a strong projecting nose and upper lip, and is usually criticising everything without examination, however much knowledge may be necessary to understand it. This is really the man who thrusts his nose in every corner; he who carefully examines and bases his modest opinion on knowledge, and who possesses a thorough education, bears, as a

Fig. 10.

rule, a more perpendicular nose, as in Fig. 4. The strong arch over the upper part of the nose made by the forehead, and seen in some persons, forms a physiognomic peculiarity of importance. This arch is, accord-

ing to Vogt, the sign of language. Men without this arch are poor speakers, and a serious injury to this part of the head may even destroy the faculty of speech. The particulars relating to this belong chiefly to the sphere of Phrenology. According to the way the nose projects from the base forward by the cheeks, and according to the form of the profile, the different degrees of freedom and energy in the appearance and personal manner may be predicated, and the degree of humane and intelligent culture may be conjectured the more the cheek stands back from the nose and leaves it in independence of the surrounding features.

Much depends upon the sharpness or flatness of the nose; as, for instance, the distinguishing of oneself before the world, and the peculiarities of conduct. The lower animal has, in comparison with men, no nose at all, or only a slight indication of one; and in correspondence it has no precision, no culture in its conduct; it does not care how it satisfies its instinct, its passions —eating and drinking in a promiscuous fashion. So the negroes and other wild nations, having small flat noses, are deficient in esthetic sentiment. Men of some education, living in cities, have always a nose of more definite cut than illiterate country people, and people who, through severe educational or disciplinary training, have gained a true gentility, have obtained with it usually a well-formed and more or less sharply-cut nose.

A nose, as the one in Fig. 11, may become inconvenient to other people, as it indicates too much energy, and demands likewise of others a great deal of obedience and subservience; persons with such a nose are too determined in their conduct in society, and will hardly allow other people to assert their opinion; such men are in place as captains of drilled companies on the battle-field as commanders. The concave feature, grooved in the ridge and sharp-pointed, like Fig. 10, is the nose of a ferreting, snuffling and smelling-about person. Like the beak of certain marsh birds, this seems con-

Fig. 11.

stituted not only for smelling, but also for penetrating and shoveling up of all sorts of refuse in daily life; people so characterized scent and snuffle out a number of mysterious things which would better be left buried and hidden.

"Nose, as usual," is very often the common term in passports and warrants; persons whose noses are thus classified, need not be sorry, as they may possess many qualities and talents too good to be fixed as appendages to their noses.

CHARACTER IN THE VOICE.

A WRITER in the *New England Journal of Education* has been observing and thinking on this subject, and briefly concludes that—

"Deep voices carry convictions of authority. Everything moves before the deep-toned teacher. There is force in his words. They carry power as do the shafts and belts from the engine, till, systematically, slowly, and steadily, the rough material to which the power is applied, is transformed into useful elements of civilization.

"Shrill voices hint at exhausted power. Scholars stare at a teacher's squeak. His words pierce. They serve as a pistol-shot among a crowd of raging urchins, inflicting a sudden, stinging pain; or the smallest of Gatling guns popping facts and queries in the recitation.

"The low pitch gives scope for rising to

a climax. The high pitch is at the climax. The former gives a pleasing variety; the latter, an irritating monotony. Deep tones breathe the hearty love of the father, the close fondness of the mother, and the lover's fervid vow. Shrill tones utter the vindictive rebuke of the tyrant, the taunts of the distant enemy, and the competitor's sarcastic criticisms. The low pitch is usually accompanied by the falling inflection, as if it came from a higher being down to the hearer's comprehension. The high pitch associates with the rising inflection, as if it shot upward to higher minds.

"A teacher lowers self in raising the voice and inflection. The ignorant do that in their disputes. 'When two men quarrel, he who raises his voice first is the one in the wrong.' The high tone and rising inflection encourage a dispute. Scholars feel it, and are tempted to reply with disrespect. A teacher raises self by lowering the pitch and inflection. Superiority is instantly felt. This is the tone of power. The parent uses it when love and authority are blended. The statesman uses it, and ennobles his government. The full-souled clergyman uses it, and enriches Christian life.

"High and rising: low and falling! They are contraries. In metaphors, the former is the favorite. In the abstract, it suggests to the imagination desired attainments. In the concrete with voice, we want the latter. The latter is positive, the former, negative. The former hints at doubt, distrust, and ignorance; the latter convinces of unhesitating right. Whatever exasperated you as a scholar more than the teacher with a shrill, squeaking voice, who '*would have* order by fair means or foul,' and who '*would have* that lesson recited, if you had to stay till dark!' What encouraged you more than the full, deep tones of the teacher who said he 'wanted you all to have your own way,' but at the same time made you hope that your way would be his way; and who 'only asked you to do your duty on the lesson,' but made you feel to the depths of your heart that it was your duty to get the whole lesson perfectly! Success in teaching demands the study of self as well as methods, for methods are modified by personalities, of which the tone of voice is not insignificant."

THE SUNBEAM.

"I must be up," saith the sun's bright ray,
"Over the land to roam;
To send my warm and cheering ray
Into many a lonely home:

"Where death has spoil'd the circle,
I will gild the empty seat,
And cast a gleam to the mourning heart,
As I beam in the eyes that weep.

"I must pass through the crowded city—
Creep down the narrow lane—
To smile in, on the sick and old,
Through many a dusty pane.

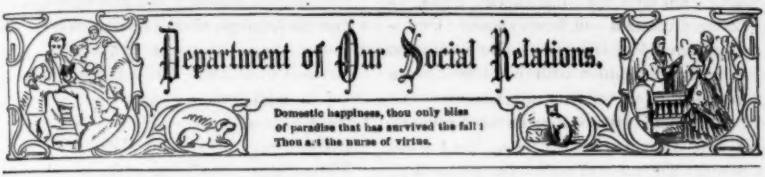
"And last, on the attic windows
I linger, the gloom to chase,
And many's the anxious brow I see—
Oh, many's the weary face!

"Till weeping, I pass o'er the mountains,
To dip at the ridge of blue:
While the farmer, looking at the grass,
Remarks on the 'heavy dew.'"

Quebec. WINNIFRED A. ROSS.

POPPING IT "GRAVELY."—An Irish girl, who was very anxious that her scatter-brained brother should not be refused by the demure young Englishwoman with whom he had fallen desperately in love, implored him to try to propose with the seriousness becoming the occasion. He vowed solemnly that he would behave as if he were acting as chief mourner at his father's funeral. The demure young lady, in imitation of many of her countrywomen, graciously accepted her wild Irish lover.

She, however, confided to her bosom friend that Edmund had proposed in rather an odd way. He had taken her after church to see the family vault, and had there, in a sepulchral voice, asked her if she would like to lay her bones beside his bones. This he evidently thought was a proper way to fulfill the promise made to his sister of treating the matter with becoming seriousness.


Department of Our Social Relations.
Domestic happiness, thou only bliss
of paradise that has survived the fall!
Thou art the nurse of virtue.

SELFISH versus UNSELFISH AIMS OF LIFE.

MAN is a compound being; a mysterious, living force, whose vitality we can not comprehend. But, though we may not be able to comprehend the principle of life, yet we can comprehend the various phases of character which life may exhibit. We can comprehend or at least *compare* a selfish motive with an unselfish one. That an unselfish nature is the highest that can be indulged or cultivated none will deny. But there are those who live so utterly false to this supreme nature, that it is sacrificed at the shrine of a glittering bauble, though it be a fool that holds it up. Though it be a fool that seeks to entice the infatuated victim, still he goes on and *on*, even if it leads him down, *down* to the lowest possible degradation. With this class of people there are many ways through which they worship the deity, the god, the image of their own construction; an image which is stamped in glowing pictures upon the hearts of thousands, whose name is written in legible characters upon their faces. That image is Selfish Success.

Draw near, gentle reader, and witness some of the schemes of plotting thousands for attaining to that standard which they deify, and then gainsay the assertion that they are cheating themselves and cheating humanity if you can.

Here is one with whom to rule is the predominant passion. This is a noble motive if it be rightly indulged; and is a baneful curse when nurtured for selfish purposes only. Witness the scheming of that individual, the deeply laid plots to subvert others. Honor, principle, truth, and justice are sacrificed by him in order that he may establish his Moloch and place himself in a position to reign over those whom he has trampled upon, whom he has torn, and hung, bleeding, upon his shrine, regardless of their plaintive tones for mercy. He crushes life with extreme torture, nips motives in the bud, arrests thought, and exults in his triumph with a fiendish exultation. There are no interests equal to his, and all things are made subservient, if possible, to his will. In short, he is a tyrant, and would be a god to rule the universe if he could gain such distinction.

Here is another whose aim in life presents a very different phase from the foregoing, and yet he is thoroughly selfish. Pleasure is his goal. Pleasure he will win though he immolate himself, and every one connected with him, upon her altar. Were it in his power he would create a garden of unlimited boundary in which he could live forever—in which he could amuse himself forever. Not for the pleasure of giving happiness to others would he do it; but to insure his own happiness, which he thinks paramount to all other considerations. Seeing he is unable to create his garden, he will devise another method for gratifying his perverted senses. What though it wrings the heart's blood, drop by drop, from a trusted friend or a tender companion, he cares not so his own selfish aim is realized. You and I, reader, will compare him with one who constructs a beautiful island—an island to float upon the ocean, or some other body of water. He fills it with exotic flowers of his own choosing, whose rare fragrance intoxicates his senses and unfits him to appreciate danger. There are beautiful vines formed into lovely arbors, inviting to repose and indulgence. There are fountains playing with a ceaseless murmur. There are singing birds among the shrubs and flowers. A beautiful creation, truly, but we look upon the frail structure and shudder at the thought of its dangerous

state, when far out in mid-ocean, where its floating treasures will be exposed to merciless waves. We try to dissuade him from the perilous doom which we feel certain awaits him; but the warning does not avail. He embarks. He has been so confident of his safe transit that we, too, in a good staunch ship, set sail and follow, at a safe distance, to note his triumph or defeat. For many days the sea is so smooth that he floats in perfect security. He now laughs at what he termed the foolish fears of those who counseled him. He indolently reclines in one of his luxurious arbors, where the rippling music of the fountains and the sweet songs of birds charm his ear, and breathes the heavy perfume of the flowers by which he is surrounded. Enchantment has woven her tissues around him so completely that he does not see the leaden hue which bounds the waste of waters at the horizon. Soon the elements seem to have broken loose, the breeze rises to a gale, and the huge billows that roll against our ship make her tremble and groan fearfully. The storm is appalling while it lasts. When it has ceased, we look out upon the foam-capped waves whose angry roar seems yet a menace, and look in vain for the floating isle of beauty which we had followed. Ah! the ocean will keep its secret.

Perhaps, escaping the storm, he floats on in indolent ease; or, wrapped in his dreams of enchantment, unaware that he is approaching a maelstrom. We ride beyond the influence of the terrible danger, and with stricken hearts watch him go to his doom. He gradually, but surely, approaches with the circling waves until the velocity, the whirling of his floating island, becomes fearful; then he is suddenly drawn into the vortex and is lost.

Perhaps, escaping the maelstrom, too, he may float on until he has almost reached the opposite shore, but he has been regardless of his course, and now, behold, to what a rock-bound coast he is helplessly drifting! We observe that the island has become much frailer than it was when he first launched it upon the ocean; for the cruel waves have unrelentingly worn away its particles. Yet, unconscious of his danger, the dreamer floats on; and, at last, when he thinks his triumph near, his boasted creation is flung upon the rocks and dashed into thousands of atoms. Reader, you may call this a fanciful sketch, but is it not true that those whose only aim in life is selfish pleasure always go on to a fearful end?

Here is another selfish schemer. Money is his god. He has become so callous as to disregard the rights of others; for he robs his fellow-men by depriving them of their just dues to enrich himself. He lives in splendor at the expense of others, and often resorts to harsh and cruel exactions to obtain the gold he covets, and that, too, apparently without compunction.

And here is yet another who would win some literary distinction for a selfish purpose. He, indeed, may act wisely in the estimation of some, but his aim is an unparalleled eminence, and to this end he devotes himself, irrespective of any other claims. He cares not whether his thoughts tend upward to the pure and beautiful, or whether they bear in them a poison that will sap the foundations of truth. Surely such sordid, selfish aims can not make the schemer happy. Compare them with the conduct of the unselfish, the pure, the noble.

Witness the lives of those who live for God and humanity. If a ruler, a sovereign, it is not his own aggrandizement that he seeks, but he devotes himself to the best interests of his people. He is merciful, truthful, honorable, just. Jealousy may hurl her poisoned shafts at his head, and seek to calumniate him by her dark insinuations, but he rises above her with a clear, calm conscience, knowing that God alone is the arbiter of his actions. He wears the regal crown of Truth, and wields the scepter of Justice and Equity. He wins the love, the homage of the pure and noble of earth, and seeks to elevate the aims and alleviate the sufferings of humanity. He is one of God's noblemen, and stands without a peer among his fellow-men. Pleasure, in itself, is harmless; devoted to an unselfish purpose it is noble. He who beautifies his surroundings, his person, his habits, his character, for the purpose of giving pleasure to others as well as himself, is a true benefactor of his race.

He should wear the royal robe of approbation. Then, again, for an unselfish purpose, the accumulation of wealth is noble. In the hands of a benefactor what good may it not do? The influence, the good may not reach very far. Only a small circle may be benefited; but in that circle may be starving and miserably-clad people, perhaps, who owe their lives, the preservation of their existence, in a measure, and a great measure too, to the kind, beneficent hand that dispensed the necessities of life among them, and, best of all, gave them employment for which they are remunerated in no niggardly manner. Not only are the hungry and destitute fed and clothed, but the eager aspirants for knowledge are assisted in their endeavors to rise above the ignorance which surrounds them, that they, in turn, may become the able instructors of others. Wherever a penny may be applied to the alleviation of suffering humanity, or the elevation of the worthy poor, it is joyfully given, accompanied with the donor's blessing. What a contrast, indeed, to the selfish man!

We have but one more contrast to make —men of literary fame. Here is one who has won a reputation of which some men would be proud; but he wears his honors modestly. His noble thoughts have flowed like a river from his rapid pen, not more rapid, perhaps, than the selfish man's, but they are freighted with principles, with aspirations which lift the reader into a higher realm of thought, and lead him to a nobler life. He did not grasp his pen with the intention of winning distinction; it came to him as the result of his unselfish efforts to create a taste, a wish for purer thoughts and nobler purposes.

Any, or all, of these unselfish workers may be compared with one who takes a journey; whose path at first may be strewn with thorns and overhung with clouds of impending darkness; for what soul that has accomplished some great good for others has not known its days of darkness and sorrow, and been torn by the cruel thorns (words) of some insinuating gossip? But as the traveler passes on with fearless tread, the clouds become broken and scattered, the sun shines forth, and diffuses his genial rays upon the little flowers that are beginning to spring by the wayside; the breeze becomes pure and invigorating, and at last he is surrounded by an incomprehensible beauty and splendor. To such glory and triumph will an unselfish life lead; and then there will be the jeweled crown, and the approving "Come, ye blessed of my Father," and the inheritance of that splendor which "eye hath not seen nor ear heard."

ESTHER MILES.

DOMINANT MIRTHFULNESS.

A FRENCH gentleman with very large and active Mirthfulness, is mentioned in the foreign newspapers as spending most of his time in contrivances to tease officials, and so gratify his love of fun by their embarrassment:

"It is his wont," says the *American Register*, "to pack a huge trunk full of trowser-straps, such as are worn with gaiters, using hydraulic pressure, as if it were necessary to cram five bushels into a three-bushel space, then to lure the inspector to open it as a suspicious package, when naturally the contents are overset, and the whole force of the Custom-house was occupied for hours in putting them back. A powerful Jack-in-the-box was another device of his that was very successful." But more than this is currently reported of this gentleman. It is his practice sometimes to leave a hamper of very high game at a parcel-office, and not take it out, simply sending messengers to inquire privately how the strength of the odor was progressing. When the officers at the parcel-office could not endure the infliction any longer, and threw the hamper away, M. Vivier would appear and politely request the return of his goods. Of course a great commotion would follow, which in every way, often by the aid of lawyers, would be prolonged by M. Vivier to his intense secret delight. Appeals to

Parisian courts would be threatened to humble village officials, who were warned of the nature of court costs. On one occasion it is said that M. Vivier blandly asked an old gentleman bathing at Boulogne if he had seen the shark. The awful hint spread as a fact far and wide. Next day it appeared that every one had seen the monster. No one bathed. M. Vivier smiled, sipped his Bordeaux, and took his departure, thoroughly gratified. He had his powerful Jack-in-the-box with him to meet all emergencies at the railway stations on the way. Another story is told of his appearing at a railway station with two valises. The officer curtly inquired if they contained anything contraband. "You can see for yourself," said Vivier, blandly offering the key. "What does this one contain?" demanded the officer. "One rattlesnake," replied Vivier, mildly. "And this?" "Two rattlesnakes," answered the humorist, in a pathetic voice. The official started back, muttering. A conference was held. The table of permitted articles was anxiously consulted. "No duty on rattlesnakes for any number less than four," grumbled the officer. "You may go." Vivier gently went.

"GEORGE SAND."

IN the summer of last year two eminent European women died. Of one, Harriet Martineau, we have already had something to say; of the other, Madame Dudevant, or, as she was more commonly known, George Sand, we now will take occasion to speak. For years she had occupied the highest position among French novelists; a rank which she had won by industry, and a most fecund talent; having published, either in book form or in the periodic press, about sixty romances, more than twenty plays, some of which are adaptations of her novels, and many minor works.

Amantine Lucille Aurore Dupin was born in Paris (some say the province of Berry) on the 12th of June, 1804, and died on the 10th of the same month last year, just two days before the completion of her seventy-second year. Her father's family was an extremely old and aristocratic one. . . . . Her father, Maurice Dupin, had incurred his mother's severe displeasure by falling in love without first consulting her, and afterward marrying a pretty girl belonging to the tradesman class, which she considered infinitely beneath her. But before Maurice Dupin had attained his thirtieth year he was killed by a fall from his horse, leaving his wife with several young children, all boys but Aurore, to provide for. . . . . Madame Dupin, the elder, offered to take charge of her son's children on condition that their mother resigned all claim to them. The young widow preferred to keep her boys to herself, but as the little Aurore was only an infant of three years, and would harass her mother in her efforts to gain a livelihood for herself and the others, she was sent to her grandmother.

Her childhood's education, therefore, was received at the family seat of Nohant, where her grandmother resided. She was not restricted to the close school-room, but was permitted to pass most of her time in out-of-door life; even to some extent indulging in the sports of hunting, fencing, and swimming, thus developing and strengthening a naturally strong constitution. Her aged relation was an adherent of the philosophy of Rousseau, and doubtless her expressed opinions exercised no little influence upon the mind of the young girl by planting the seeds of that liberalism which appeared so conspicuously in her mature life. At the age of fifteen she was placed in a convent at Paris, where her education seems to have received its final touches. There she exhibited a high degree of mental capacity, bearing off the first prizes. After two years she returned to Nohant, and a year later her aged grandmother died, leaving to Aurore the family estate, and a handsome income, amounting to upward of ten thousand dollars a year. This bereavement was a severe one to Aurore. She now felt that her mother was the friend to whom she should go for comfort and society, and she did so; but

that mother treated her so harshly that, at the age of eighteen, she accepted the hand of Casimir Dudevant. After their marriage the young couple made Nohant their residence, and in a short time discovered that their tempers and tastes had little in common. Their differences in disposition led, in the course of years, to positive estrangement, and finally, in 1831, Madame Dudevant obtained permission from her husband to spend some months each year in Paris. It

is said, that in order to secure this liberty, she surrendered what was left of her inheritance. In Paris she lived with her two children in a garret for a time, using what talent and culture she had in the art line to make paintings, ornament toys, candlesticks, snuff-boxes. In order to further her enterprises, and that she might visit the galleries and public places without molestation, she assumed male attire. It was while thus disguised that she met with the author Jules Sandau, and formed that intimacy which probably led her to taking up the pen of the romancer and dramatist. She had previously, it seems, contributed some articles to *Figaro*, but without success. A novel, which she wrote with the co-operation of Sandau, entitled "Rosetta Blanche," found sufficient encouragement from the public to stimulate her to further endeavor; and her "Indiana" appeared under the authorship of "George Sand." This book proved a marked success. It was rumored that the author of "Indiana" was a woman, and this added not a little to the interest in its circulation. Soon afterward "Valentine" appeared, which, in quality, was much superior to the former volumes. Now, having obtained some prestige, she found it not difficult to secure places and publishers for her writings. The *Revue des Deux Mondes* became the medium for the publication of the stories of her pen. "Lelia," which ap-

peared in 1833, caused a profound sensation, on account of its seeming advocacy of opinions tending to infidelity and social disorder. Many of her former admirers began to suspect her loyalty to religion and the established usages of society.

She had become acquainted with many of the leading writers of Paris meanwhile, among them the poet Alfred Musset, then an impetuous young man of twenty-three. To recruit her health, which had become somewhat impaired by assiduous work at the desk, she started for Italy in his company. At Venice they separated, however, Musset returning to France, and she remaining. While in Italy she wrote "Jacques," "André," "Letters of a Traveler." Returning to France in the early part of 1835, she met the eloquent lawyer, Michel de Bourges, who drew her into politics. There was also Lamenais, with whom she discussed questions of religion; and there was Pierre La Roux, who gave her some insight of new socialistic doctrines. The influence of such men was perceptible in several of her subsequent volumes, such, for instance, as "Simon," "Spiridon," "Consuelo."

Of course, the continued separation from her husband, and her intimacy with other men, whether authors or otherwise, did not serve to render the relations of the husband and wife more favorable to a renewal of personal association than before the wife had left his side; and we find that about the year 1836 Madame Dudevant made application for a decree of divorce, and for the restoration to her of the management of what remained of her inheritance, and for the guardianship of her children. This decree having been obtained, she addressed herself with even more earnestness and freedom to her literary enterprises.

In 1838 she spent a winter in Majorca, accompanied by the celebrated pianist Chopin. We do not think ourselves warranted in an inference that her relations with the pianist went beyond a warm and mutual sympathy for the subjects of art; but the fact is clear that a very intimate relation subsisted between them until 1847. The Revolution of February, 1848, drew her into the political arena again, and so deep an interest did she exhibit in its movements, sustaining with her active pen many of the measures of Ledru Rollin, then a member of the Provisional Government, that it is said her writings, if collected, would make fifty volumes. She had now made Nohant her home, and gave careful attention to the education of her two children.

In 1854 she published in the *Presse* an autobiography, entitled "History of My Life," which, however, is more the history of her mind than of her life—of her thoughts, emotions, and aspirations, rather than of the vicissitudes and events of a remarkable life. Subsequent to that time she wrote several plays, which did not receive the favor which was given by the reading public to her novels, although "The Fine Gentlemen of Bois-doré," of 1862, and "The Marquis of Villemer," of 1864, were very successful. One of her latest publications was a diary, first contributed in parts to the *Revue des Deux Mondes*, entitled "Journal of a Traveler during the War." Later still she published "Impressions and Reminiscences" in 1873.

She died peacefully in the midst of her family and friends; and at her funeral, notwithstanding her known opinions, the offices of religion were not wanting. Victor Hugo delivered an address on that occasion, in which he said: "George Sand is an ideal. She has a unique place in our age. Others are great men; she is a great woman. In this country, whose law is to complete the French Revolution and begin that of the equality of the sexes—being a part of the equality of man—a great woman was needed. It was necessary to prove that a woman could have all the manly gifts without losing any of her angelic qualities; be strong without ceasing to be tender. George Sand proved it."

An American writer of distinction says of her writings: "The prose of George Sand stands out conspicuous for its wonderful expressiveness and force, its almost perfect beauty. She is, after Rousseau, the one only great French author who has looked directly and lovingly into the face of Nature and learned her secrets, which skies and

waters, fields and lanes, can teach to the heart that loves them. Gifts such as these have won her the almost unrivalled place which she holds in living literature. There is hardly a woman's heart anywhere in the civilized world which has not felt the vibration of George Sand's thrilling voice."

In M. Rouvin's recent work on "The Human Head," in the course of a characterization of this celebrated woman, he gives an opinion which does not accord with that quoted above. M. Rouvin says: "In her Oriental rather than Christian head, the worship of fancy and form predominated; and reason speaking less loudly than the instincts of the artist, sophistry was born mingled and embarrassed with itself. Madame Sand is a potent magician who has abused her talisman, and who will be punished by the forgetfulness into which a good number of her books will fall, or have already fallen. Capable of making masterpieces only, she has preferred quantity to quality—a matter truly of regret."

WHY MAR THE IMAGE?

CHAPTER III.

THWARTED HUMANITY.

"I WILL not go down to breakfast this morning," thought Mr. Harcourt, after having passed a restless night, during whose long hours he had considered very little concerning High Church or Low Church, Apostolic Succession or Ceremonial Law. He had also forgotten to examine authorities concerning the points of doctrine over which he had been in doubt on the previous day, and was now in no mood to look them up, even though the morning was the Christian Sabbath, and he should be compelled to decide them at once or waive the part of his discourse in which they were to appear; in which case he would miss the opportunity to exhibit much elegant rhetoric, which he was sure a pair of gazelle-like eyes would flash and glisten under, could their owner but hear; and should he divide the disputed points in such a way as to raise an issue with the majority of his congregation, there was danger of a controversy that might end in his dismissal. For modern congregations have inherited the habit of looking up their own precedents, and, indeed, have been known to form their own opinions sometimes, without inheritance, thereby augmenting clerical labors and difficulties, without always increasing the clerical pay.

"I'll send word to Mrs. Edmondson that my sermon isn't finished, and then they'll all excuse me," continued Mr. Harcourt, after a long interim, which he had occupied in running his fingers nervously through his dark hair. "No," he thought again, "that won't do, for I told her yesterday that my work was done, and well done. Hang the women! They have such unpardonable and irrepressible curiosity that you can't steer clear of their scrutiny. If I pronounce myself dissatisfied with my work now, she'll know that Miss Summers has had something to do with my present perturbation. Or, maybe, she'll believe me confirmed in the egotism of which she yesterday declared me guilty. Botheration take the sermon anyhow! What do *I* care for points of doctrine? and what do the most of them amount to but speculation, even when we think they're settled? The Sermon on the Mount and the Golden Rule and Eleventh Commandment are doctrine enough for me! But, heigh ho! 'twill never do to make the Gospel so simple that it will not need salaried interpreters!"

Mr. Harcourt's hesitation had made him late at breakfast, and the gazelle eyes that flashed at him with a mute second to Mrs. Edmondson's kindly inquiries after his health, deprived him, as by some strange alluring spell, of the little appetite he had brought to table.

"Do you feel refreshed after your night's rest, Miss Summers?" he asked, in a consciously-awkward way, as though speaking from constrained politeness.

"Quite so, thank you," was the gracious

reply, but the effort to repress a hacking cough ended in a hollow echo that did not escape him.

"A letter for Miss Summers," cried the florid Swede, who answered door-bells, and who was justly proud of having so far mastered the people's English as to be able to read the address of every envelope that passed through her pudgy hands.

Miss Summers laid the missive carelessly beside her plate, as though in no hurry to examine its contents, but her hand trembled, and an ill-restrained nervousness was exhibited in the lines of her mouth and eyelids. Her voice also emitted a slight, well-guarded tremor, as she replied huskily to some commonplace question about her food.

"Read your letter, if you like; we'll excuse you, Sallie," said the hostess, speaking with a caress in her voice and a tenderness in her eye that was contagious. "Who knows but it's from your adored and adorable? I'm not so far advanced in years but I remember old times and old letters;" this last remark ending in an admiring glance at her husband, who ate his breakfast with commendable gravity.

Miss Summers made no reply, but proceeded to break the envelope with trembling fingers, while a smile of painful anxiety rippled over her firm lips and sent the hot blood of a strange apprehension into the face of the handsome clergyman, in spite of his determination to feel that the young lady or her affairs could be no concern of his.

The missive proved a brief one.

"Mr. Harcourt, will you do me a favor?" asked the visitor abruptly, turning to the clergyman with her great, speaking eyes, and fastening upon him a pleading, half-frightened look.

"Certainly; you have but to command;" and Mr. Harcourt was almost thankful for the bad news, if such the letter bore, which had caused his new acquaintance to favor him with any request, whether reasonable or otherwise.

"I have a relation who is very ill," said Miss Summers, "a near and dear unfortunate, who can not long retain his hold upon an afflicted body. Will you go with me to visit him?"

Mrs. Edmondson nudged her husband under the table with her foot, after the manner of women who desire to express an opinion without audible utterance.

"Shall we have time to go before the morning service?" asked Mr. Harcourt.

"No. Besides, it isn't necessary. After sermon will be time enough. It's a sad, sad story; one of blighted life and thwarted humanity."

Mrs. Edmondson felt a trifle piqued because of her friend's desire to lead the clergyman into a confidence from which she was herself excluded, yet her strong good sense assured her that there was some good reason for her choice that would be afterward explained.

"It's perfectly natural for women with circumscribed lives and over-stimulated emotions to cater to the caprices of clergymen and physicians," said Mr. Edmondson, as soon as he was alone with his wife. "Miss Summers would not have thought of presuming thus upon such short acquaintance if her new friend hadn't been a preacher or a doctor."

"That is the way with men the world over," replied the wife. "They circumscribe women's opportunities and make them weak and dependent, and then find fault with them because their training sometimes brings forth a practical result."

"I wasn't blaming her, my dear," retorted the husband, with more show of feeling than the case warranted. "I was merely stating facts."

But in this he was in error. The truth was, that Miss Summers was not thinking of the clergyman's profession at all when she made her request. Clergymen, as such, inspired her with little of the awe which women in general feel for the cloth. She had been brought up among the profession, her uncle and two cousins having long held important positions, one as a bishop and the others as ministers in the same diocese, and each had been so intimately connected with her earlier years that the little failings of their humanity had often, despite their calling, been perceivable to her unassisted eye. But, woman like, she had divined Mr. Harcourt's awakened interest in herself from

the first hour of their meeting, and—unlike most women, who see the possible prospects of a marriage which may prove incompatible, and ought, therefore, to be considered impossible—she resolved to bring him face to face with a marred image of the human and divine, which lived in her own home and near her heart, as a melancholy proof that the sins of the parents are visited upon the children to the third and fourth generations.

The sermon of Mr. Harcourt was faultless in exordium, argument, and peroration. It was perfect in diction, intonation, and climax. In rhetoric it was unobjectionable; and its deductions, from assumed premises, logical.

How much Miss Summers admired the handsome and eloquent orator, she was firmly resolved that he should never know. His finely-rounded periods settled themselves in her heart like a rhythmic benison; and yet there was an emptiness in his efforts that rendered them absolutely painful to her inner judgment.

"There's no heart in it, after all," she thought. "He has no personal faith in half he's telling us."

But in the course of the beautiful and impressive responsive readings of the usual service, the earnest melody of the pastor's well-modulated voice thrilled her heart, and she allowed her spirit, guarded as she thought it was, to revel in sweet anticipations of a possible happiness, that was in no wise lessened by the *Gloria Patri* that swelled in tremulous harmony from the pipes of the great organ.

"Are you not going back to lunch before setting out upon your errand of philanthropy?" asked Mrs. Edmondson, as soon as the clergyman—who returned from unmaking his ministerial toilet—had joined the ladies in the aisle.

The question suddenly roused Miss Summers from a rapt reverie in which the reverberating tones of the organ had somehow died away in a symphony much like doves cooing.

"If you please, my friend, Mr. Harcourt has an engagement with me which I hope he will not forget," she said, speaking in a nervous, yet decided way that was bewitchingly irresistible.

"Ah, I beg pardon," answered the lady, with a smile, "but I shall expect you both at dinner."

"Yes—or I speak for myself only. I am not Mr. Harcourt's keeper," said Miss Summers, archly.

"I would to Heaven you were," was the gentleman's reply, spoken in so low a tone that none but she could hear it.

Miss Summers blushed.

"Are you ready?" she asked, as they reached the vestibule, to find the congregation already dispersed, and the janitor impatiently jingling the key of the ponderous doors, while he inwardly said all sorts of ugly things about being kept so long in waiting.

"Yes, I am ready. Whither wouldst thou lead?" he answered, darting a look at her which sent a wilder beating to her heart.

"Come and see," was the terse response, and Mr. Harcourt, full of self-satisfaction over his recently-uttered eloquence, watched her furtively, as, with her eyes on the alert for a street car, she seemed oblivious to all else.

"Eighth Avenue and Sixty-eighth Street," she said, mortifying and half offending the clergyman by thrusting the fare for two in the conductor's hand before she left the platform for a seat.

"It's a matter of principle with me, sir," she said, turning to Mr. Harcourt, in explanation, as the collector of small change passed on. "I invited you to accompany me, and I detest the snobbery which imagines it to be good manners to compel a lady to act in all cases as though she were a pauper. You are not offended, I hope? I surely should have been, however, if you had failed to let me have my way. When you invite me to accompany you upon a round of charity, I'll let *you* 'stand treat,' as you gentlemen say."

She looked pleadingly in his face, and again the gazelle-like eyes thrilled him with a fascination that was irresistible.

"*Offended at you, Miss Summers?* There is only one way you *could* offend me. Shall I name it?"

"I always offend people when I find out how to do it, and I like you better when I don't make you angry," she said, quietly.

"Then you don't want me to tell you how you could displease me?"

"No. That is, not now. But you can't imagine how humiliating it is to a genuine lady to be always receiving pecuniary favors from gentlemen. I detest the practice."

"I admire your sentiment, Miss Summers, however much I regret its application when I am the party concerned."

"My friends, whom we are to visit, are poverty-stricken," said Miss Summers, changing the subject as much by her manner as her words. "They live up three flights, in a rickety attic flat. I am not in my normal condition when I visit Mrs. Edmondson. She met me abroad a number of years ago. I was employed as tutor and traveling companion to a friend of hers, a few years my junior, and the wardrobe that was furnished me for that journey has amply sufficed me since, with little additional cost. But I am poor, and have poor relations, and I want you to see them and know how they live. You said to-day in your sermon that 'the proper study of mankind is man,' and I want to give you an opportunity to take an important practical lesson in your favorite science. You will pardon my seeming boldness. I have a good reason for inviting you here, which you will understand by and by."

Up three long, narrow flights of stairs, through an atmosphere stifling with close, musty odors, with the way so dark that it could only be safely found by diligent groping, Miss Summers led her friend.

A pale, emaciated woman met them at the door, the quick smile that radiated her pain-pinched features as she greeted Miss Summers, changing to a look of amazed inquiry as her eyes rested upon the stranger.

"Mrs. Harlow, allow me to introduce the Rev. Mr. Harcourt, of whom you have heard. Mr. Harcourt, Mrs. Harlow, my sister," said Miss Summers.

They made a striking picture. Such as one meets too often in the ways of life. He with his elegant broadcloth and spotless necktie and linen. She with the threadbare garments and careworn face; he with exuberant health; she with pain speaking in every feature; he commanding, self-possessed, and gentle; she shrinking, anxious, and doubtful.

"We have a poor place to invite you to sit down," said the woman, wearily. "I'm astonished that my sister should invite you here."

"You ought to know me well enough by this time not to be astonished at anything I do," replied the sister, offering the clergyman a seat upon a chair that had seen better days, herself perching upon a high, old-fashioned bed, covered with a home-made relic of the long ago that whispered of green fields and open fires and a housewife toiling patiently at a battered loom, while she wove the web of her own life into the woof of coming generations, little heeding that the toil and painstaking thus expended upon that which was not necessary as food and raiment, and contributed naught to intellectual growth, was undermining the constitutions of humanity unborn, and leaving these faded daughters as a heritage of unwise domestic manufacturing enterprises.

All this Mr. Harcourt understood at a glance; but he did not yet divine the reason why Miss Summers had invited him to this unpromising abode.

"How's John? Your note said he was failing," said the young lady, while the hectic deepened in her own cheek, and her great, changeable eyes flashed anxiously.

"He is failing sadly, Sallie. My last blighted bud will soon die. It is badly withered now." As she spoke she opened an adjoining door and wheeled a couch into the main apartment, where the cooking-stove and bed formed the principal articles of furniture. "I had just wheeled him out, so I might sweep," continued the mother, with an apologetic glance at the unkempt hearth and an untidy coal-scuttle.

Mr. Harcourt started. What an object met his gaze! Upon the low, white-draped couch lay a little body, not larger than a child of four years, with long arms, and attenuated, though shapely, hands, and a head so covered with scrofulous sores, that in

spite of the sweet mouth and blue, mild eyes, it was hideous.

"He's as contented a little fellow as ever you saw," added the mother, shaking the pillows gently, and leaning over the hideous caricature upon humanity with unutterable fondness.

"What is his age, madam?"

Mr. Harcourt asked the question partly from curiosity and partly because he could think of nothing else to say.

"He is seventeen years old, and the last of seven who have gone just like him. Our family all have a slow consumption, sir. Sometimes it is in the lungs, sometimes in the head, and sometimes in the bowels, but always in the blood. We inherited the trouble from our parents, who sowed the wind in their ignorance, leaving us to reap the whirlwind in our helplessness. My husband had quick consumption; caught it from me, I'm afraid. At any rate the curse is on us."

"Were all your children afflicted like this one?"

"Oh no, sir. The others had clear complexions and no offensive eruptions; except one whose consumption took the form of nasal catarrh."

"Have you conceived no remedy for these entailed evils, madam?"

"Oh yes, sir. Or if I have not found a remedy, I have at least discovered a preventive."

"What is it, pray?"

"Celibacy, sir. When people are afflicted with organic diseases, that they know to be transmissible, let them act so wisely as not to sin against humanity by getting themselves married."

"Your prescription came too late for your benefit, Mrs. Harlow."

"Alas, I know it well! But it's not too late to save others from the same mistake."

"Isn't your theory a little heartless?"

"I think not, sir. It's no kindness to any man to marry him that his posterity may aggravate disease and death."

"But harmonious observance of the laws of nature would restore most hereditary unfortunates to comparative health. Disease is the outgrowth of ignorance, and when the world gets wiser will be looked upon as a crime."

The sufferer moaned and expressed himself in guttural gurglings, which his mother well understood. His heated face and head were sponged with milk and water, for which favor he smiled gratefully; after which, throwing back his head, he sank into a slumber that produced horrible breathing exhalations.

"Shall I join you in prayer, my dear madam?" asked the clergyman, kindly.

"Yes, when you reach your closet, where we are all commanded to go when we pray. I shall be with you in spirit."

"What did you want me for, Thankful? You wrote, asking me to call," said Miss Summers, as if anxious to change the subject.

"I wanted to see a human face—yours above all others. The grocer leaves my packages at the door, and there's no one else to speak to. I haven't seen him for a week, and I thought you wouldn't mind coming. I knew you were to be at Mrs. Edmondson's to-day. But take my advice and don't you ever marry."

"Shall we be going?" asked the young lady, while a nervous chill sent a tremor through her body, and her cough was held in check with difficulty.

"If you are ready," replied the clergyman, in whose brain yet lingered the suggestion of Mrs. Harlow, to do his praying in his closet. After all, was not that the command of Jesus? And wasn't it as binding as any other? He had caught an idea.

On the way home the street car was so densely crowded as to prevent further conversation; but it was well. Mr. Harcourt and Miss Summers were both too busy with unutterable thoughts to seek vent in their expression.

(*To be continued.*)

HOW IT WAS BROUGHT ABOUT. — A New York daily is responsible for the following romantic account:

A lawyer, while in the store of a client, whose counting-room overlooked a North River pier, saw a letter floating in the wa-

ter. He stepped out of the office, fished up the letter with his cane, and opened it. It was written in a fine, running hand, and was bright and interesting, addressed to "My dear uncle," and bore the full signature of a Portland lady. The lawyer sent the letter to the lady, with a note describing the manner in which it had been recovered. In answering his letter, she explained that the "dear uncle" was captain of a steamboat plying on the Sound. Letters were exchanged, and there was a wedding in Portland late in February, and now there are two happy people in Plainfield, N. J.

"HOW MUCH?" AND "HOW MANY?"

"How much was he worth when he died?"
"A couple of millions clear,
Plenty of railway stock beside,
And part of a mine, I hear:
There are few who could follow where he did lead;
He died a very rich man indeed!"

"But how many friends has he left?"
"Neither wife nor child, they say.
Not one heart that will feel bereft
At the news it hears to-day;
Not a single soul for him to weep,
Not a heart his memory to keep."

"Then I think he was poor, my friend,
But a pauper millionaire.
Oh, it was but a beggarly end,
To have owned no single share
In the only wealth a man can save—
Love that follows him over the grave."

LILLIE E. BARR.

VERBENAS FOR THE GARDEN.

THE term Verbena is applied to a family of plants which comprises a great number of varieties, many of which are favorites in the gardens of Europe and America. The name comes from the Latin, signifying a sacred bow. The varieties of Verbena run from small, half-trailing plants, to strong, tree-like growths, one of which, the teak, is an important member. The ornamental sorts which are now so popular are the results of numerous crossings and skillful culture, in the course of which the characteristics of the original plants have been quite lost. It is said, by a writer in the *Agriculturist*, that the first garden Verbena was brought to this country from Buenos Ayres in 1835, by a resident of New Jersey, who gave his plants to Mr. Thos. Hogg, the pioneer of horticulture in New York. These Verbenas were the crimson, *V. phlogiflora*, also called *Tweediana*, bearing a rose-colored bloom, and a white one, whose name is now unknown. About this time the Verbena became popular in England, having been taken thither from Buenos Ayres, but to Mr. Hogg belongs the credit of having raised the first successfully in America.

With these and one or two other varieties which our florists obtained from Brazil, a series of hybrids was obtained, comprising almost every color and shade from white to the deepest maroon. A yellow Verbena and a decided blue have, as yet, eluded their efforts, although a close approach to blue has been made, and horticulturists are introducing yearly new mixtures of color.

The brightness and remarkable variety of their markings have made Verbenas so popular, as well as their easy culture and adaptation to mounds and borders and general bedding purposes.

The plants when established grow with great rapidity, usually attaching themselves to the soil by the roots thrown out at each joint; when a variety is not disposed to do this, it may be kept low by fixing the branches to the earth by means of hooked wooden pegs or bent wires. Cuttings of the Verbena, root with the greatest ease. In early summer they can be propagated to any extent from cuttings an inch long placed in saucers of sand that are kept constantly wet and exposed to the light; but for propagation in cool weather, bottom heat is needed. Verbenas seed freely, and the raising of seedlings is not only an easy matter, but a

very fascinating occupation, as it is likely that a packet of seeds will give a number of different forms and colors. Fair success attends the sowing of the seed in the open ground, but plants so raised are much later in coming into bloom than when the seed is started in a hot-bed.

The aim of the florist is not only size and substance in the flower, but also a distinctness of marking—a bright center or eye to each floweret, and in the striped sorts no blending of colors.

CLUSTER OF VERBENAS.

The well-known lemon Verbena is of a different genus from the ordinary scentless

kinds and requires a different treatment, being deciduous and needing a season of rest. It can be trained in the form of a tree with a distinct trunk and round head. The bunch of Verbenas accompanying these remarks contains several popular varieties, some of which, notwithstanding the lack of color, other than the black and white of common printing, may be recognized by the reader.

LETTERS FROM THE SOUTH.

No. IV.

DEAR JOURNAL:—I had a visit, during the cold weather, from the most delightful little gentleman in the world. He came in a sleigh, like Santa Claus, and like that Christmas patron-saint, he dispenses good gifts and makes the children and their mammas happy wherever he goes. You may be sure he created a sensation in his sleigh, drawn by a couple of stout mules, in lieu of the reindeer; for a sleigh is a *new* thing under this Southern sun of ours, but in this case a very convenient thing; there being at that time the heaviest snow on the ground seen in North Mississippi in forty years. Actuated by his obliging, benevolent spirit, our little old gentleman from Pontotoc, from the county of hanging grapes (Indian signification of Pontotoc, by which designation he is in the habit of styling himself), went to work the day after the *first* snow, and not a little to the damage of his small hands constructed a slide, which, though far from being a fac-simile of the painted, buffalo-berobed sleighs in the chromo of "A Northern Scene," which hangs over my mantel-piece, yet answers the same purpose. Flying around in this astonishing manner, with a bag-full of oranges, and no end of sweets, he was the veritable good genius of the children, who are equally captivated by his sunny blue eyes and his beautiful smile, disclosing a set of teeth in pearly preservation, despite his fifty years. Oh, he is the loveliest little gentleman, this dapper little representative of "old school" manners, delightfully surprising us with his quick, brisk motions, his gay laughter, his sonorous outbursts of singing, and his exuberance of gladsome spirits. Years have touched his heart so lightly that he seems, at times, really boyish, which is, no doubt, the secret of his great influence over boys, and the source of the attraction which draws them to him. You should have seen him when I introduced him to my old friend Mrs. McIvor, and her daughter Sallie. He bowed low over the old lady's withered hand, adding to my introduction his usual explanatory phrase, "From Pontotoc, madam, from the county of hanging grapes; a bachelor, madam, by no fault of his own; allow me, madam, the honor of kissing your hand—the hand of the mother of such a lovely daughter," bestowing on Miss Sallie at the same time a look of profound admiration. While he was at our house I was telling him about the flourishing colored school taught by the tenant of one of our outhouses. Said I, "The colored people hereabouts take advantage of the free school privilege with far greater zeal than do the working class of whites; and some of the latter are really inferior to the freedmen in intelligence as well as integrity."

"Oh, but," says my impulsive little gentleman from the county of hanging grapes, "the Caucasian race are inherently *superior* to the negroes; no educational advantages can ever make them equal."

"I don't know about that," said I, "it depends very much upon their environments and heredity. I have heard you complain of the excessive dullness and enormous gluttony of your white waiting-boy, 'Stopper Sam,' whom you hired chiefly as a means of relief to his mother, poor and a widow. Do you think Sam's head contains twelve verses of poetry?"

"Poetry," echoed the little gentleman, clapping his small hands and throwing up his tiny feet so high in his exuberance that he nearly capsized, "why, Sam don't know B from bull-frog; he's as ignorant as a week-old calf."

"I'll call Arthur to repeat some verses for you," said I, and going to the door I saw him cutting wood for his mother, the colored teacher, and beckoned to him. He came into the room presently, modestly taking off his cap, bowing and saying, "Good afternoon." "Arthur," said I, "here is a friend of mine for whom I want you to repeat some of your poetry."

He paused a moment, looking very diffident, then raised his velvety black eyes and recited the beautiful poetic story of the Captain of the *Ironsides*, whose little son, one day in a spirit of hardihood,

> "Climbed shroud and spar, and then
> Upon the main truck rose and stood,"

where he was perceived by the crew with horrified amazement, being beyond their aid. His father came on deck, and with that wonderful presence of mind which comes to some like inspiration in time of imminent danger, grasped a rifle, and aiming it at his son, said—

> "'Jump far out, boy, into the waves,
> Jump, or *I fire*,' he said;
> 'This chance alone your life can save.
> Jump! Jump!' the boy obeyed.
> He rose, he sank, he moved, he lived,
> He for the ship struck out,
> On board we hailed the lad beloved,
> With many a joyous shout.
> The father drew, with silent joy,
> Those wet arms round his neck,
> He folded to his heart the boy,
> And fainted on the deck."

This touching poem was most pathetically rendered by little Arthur, with appropriate inflections and emphasis. When he concluded, the sunny blue eyes of the little gentleman from the county of hanging grapes were as full of tears as my own. Drawing a silver half-dollar from his pocket, he silently pressed it into Arthur's palm.

V. D. COVINGTON.

INCIDENT ON THE ST. JOHN'S RIVER, FLORIDA.

A tropic sun was sinking slow,
When, on our river's breast
A yacht lay, with its folded sail,
Anchored as if for rest;
The water with its rippling waves
Seemed made of purpling gold;
In softest strains of melody
It rippled 'round her hold.

Why stands she there, as twilight dim
Creeps over earth and sea?
What bears she on her deck this night?
What can her treasure be?
Her "treasure" is a sweet, young life,
Breathing our summer air.
"Past hope, past cure," the north winds say,
But Love doth not despair.

A father sits beside his child
Holding her wasted hand,
And in his tender, soothing tones,
Tells of this sunny land.
"And are we anchored safe," she says,
"And can not drift to sea?"
These simple words are two-edged swords,
What can his answer be?

His lips frame "Yes," but in his heart
A choking "No" he feels;
And though he smiles above his child,
His soul in anguish kneels.

The air is stirred, he hears an oar,
From lusty lungs ere long
"My old Kentucky Home, good-night,"
Falls on his ear in song,
While skimming o'er the happy waves,
Freighted with hope and health,
A dainty boat is passing fast,
Bearing a mother's wealth.

'Twixt mother, oarsman, and her son
A few short words are said.
The rudder turns, the yacht is reached,
And there beside that bed
Under the still and quiet sky
Those stranger parents meet;
While flowers and fruits are gently laid
At the poor sick girl's feet.

What need of words? Silence and tears,
As bending o'er his own,
A faint "God bless you," with a sob—
Again the two are 'lone.
The mother clasps her rosy boy
And thinks with shuddering breath
Of that pale girl and of that sea
T'ward which she drifts, called Death;

And in her inmost heart she cries,
"Give me content, not wealth;
For what is power, or gold, or fame,
Compared with God's gift—Health?"

MATTIE A. BRIDGE.

Department of Literature, Science, Education.

True philosophy is a revelation of the Divine will manifested in creation: it harmonizes with all truth, and can not with impunity be neglected.

THE SHIPWRECKED SAILORS.

A WOMAN ON CIVIL ECONOMY.

SUCH is the title of one of a series of stories illustrative of political economy, from the pen of Mrs. Fawcett, the wife of Professor Fawcett, Chancellor of the Exchequer of Great Britain.

As her husband has, of late years, been, by an accident, deprived of his eyesight, he has been much aided by her in his studies and writings, and thus her attention has been concentrated on social science to a remarkable extent, she being "only a woman, you know."

It is said to be most touching to see her daily conducting her husband to his seat in Parliament (when it is in session), and her intuitive perception, even anticipation, of his requirements.

Although we do not accept all the Chancellor's conclusions in the so-called science to which he is devoted, we have an entire admiration for his abilities and honesty of purpose. We deem his analysis better than his synthesis, and his power of "putting things" concisely is unexcelled. For instance, speaking of closing the public libraries on Sunday, he says they are closed to the public on the only day when the public could avail themselves of them.

We quote from the story as follows:

"Once Captain Adam and some twenty of the passengers and crew of a sailing vessel were shipwrecked on a small uninhabited island in the Pacific. They were like Robinson Crusoe in one respect, which was, that they were fortunate enough to be able to save a number of things off the wreck, which they found to be of immense value and comfort. They were not able, like Robinson Crusoe, to go to their vessel before it broke, and ransack it for the most useful things they could find; they got nothing that was not washed ashore, so they obtained, altogether, a very motley collection. Their rule was that whoever found anything was the owner of it, or, as it was more tersely expressed by the sailors, 'Findings is keepings.' The consequence of this rule was that there was very soon a great deal of buying and selling in the little community. Three men, for instance, succeeded in hauling to the shore a case, which proved to contain twelve dozen pairs of boots of various sizes. This bit of good luck made them for a time quite the capitalists of the little community. In exchange for the boots, which were very sorely needed by their companions, they obtained a share of the most useful things that had been found. One man who had found a case of spirits, came and offered a bottle of rum for a pair of boots. [Certainly a good exchange for the rum-man!—ED.] Another man had found a box of carpenter's tools, and it so happened that he was quite unable to use them to advantage, whereas one of the men who had found the boots was a carpenter by trade, and very much longed to possess the box of tools. A harder bargain never was struck than between these two men. The carpenter began by offering a pair of boots in exchange for the tools. 'Nay,' said the other, 'boots are very well in their way; but they tell me you have got scores of 'em; and I reckon I can get something more than a pair of boots for my tools. Besides, I rather think I shall keep the tools myself. I am not such a fool but what I can drive a nail and use a saw almost as well as if I had done nothing else all my life.' They were not able to come to any agreement, and the

finder of the tools so far got the best of it that he succeeded in getting a pair of boots from one of the other men in exchange for the loan of the saw for one day. By this time, the little colony were busy in making themselves small wooden huts in which they slept, and where they found shelter from storms. As the process of building these huts went on, Green, the man who had found the tools, discovered that by lending them he could obtain either a share in what had been found by the others, or an equiva lent in the form of labor. 'Lend us the axe and mallet, old fellow,' said one, 'and I'll give you three dinners off the fish I catch in the morning;' or, perhaps it was, 'Lend me the saw and plane to-day, and you shall have half the number of planks that I am able to make in the time.'

"It was not long before Green, and, indeed, all the party, found that amateur carpentering is a very expensive process. One man chopped his toe off with the axe, when he was trying to cut down a tree, and was laid up for a month. The planks, that had been sawn and planed by an apothecary's apprentice, might have deserved to be sent to a museum of curiosities; but they were certainly not in their right place when he tried to make them into a door and keep out the blasts of a tropical hurricane. But the shipwrecked sailors not only found that it was easier to cut and bruise their own toes and fingers than to convert the young palms into decent habitations; there was another, and perhaps a more serious disadvantage attaching to their unskillful work. Green often found when the tools were returned to him that they had suffered almost as severely as those who attempted to use them. The teeth of the saw were bent, the edge of the axe was turned, the chisel was broken in half, and almost as many nails were broken and bent, or were knocked in in the wrong places, as were driven home exactly on the spot where they were wanted. These various misfortunes made everybody see how much better things would go on if the carpenter did all the carpentering that was needed by the little colony. If the carpenter hired the tools of Green, Green would lose nothing, for the carpenter could give him more for the loan of them than any one else, because no one could make such good use of them as the carpenter. The carpenter would also be a gainer, because he would then be able to turn his skill in his trade to the best account, and would get all his wants supplied by his companions in return for the services he rendered them. Finally, the entire colony would gain by the carpenter having the use of the tools; for, instead of chopping off their toes, bruising their fingers, and spoiling the tools, with the worst possible result in the carpentering line, they now saved their own skin, the tools were not injured, their carpentering was well done; and in return for the services of the carpenter, every man and woman gave him a share of what he or she was most skillful in producing or most fortunate in finding. The advantage every one enjoyed from this division of labor was apparent: the carpenter had no need to leave his trade, in order to go hunting or fishing; he had very little skill in these pursuits, and had sometimes been out all day without bringing home enough for supper. Here was folly and waste of time! If he had stayed at home he could have finished Jack Collins's hut, and made a strong bench for Mrs. Collins; while Jack, who knows the ways of every bird that flies and every fish that swims, would bring back enough game and fish to last all the next day for himself, his wife, the carpenter, and half a dozen others; and Mrs. Collins, the swiftest of knitters, whose bench would have been a strange production if she had made it herself, would have made a pair of strong socks for the carpenter, in return for the bench. It was therefore agreed on all hands that every one should find out what he or she could do best, and stick to it. Jack Collins and two others were able to provide the whole company with as much fish and game as they could eat. Mrs. Collins was in great request in consequence of her skill in knitting, mending, and patching. One man, who had been a blacksmith, found that the best thing he could do was to melt down all pieces of old iron, copper, and other metals that were washed up with the wreck, and convert them into nails, saucepans, etc. He

was also able to repair the damage done by the unskillful use of the carpenter's tools. Every one, in fact, found that there was some way in which he or she could be more useful than in others. There were two children, who were always hard at work collecting firewood for the blacksmith and for cooking; and they also searched about on the shore for pieces of the wreck that had copper bolts in them, or any fragments of metal, which the smith was not long in converting into pots and pans.

"There was one man who had been a passenger on the ill-fated ship, who was certainly not very well adapted to a Robinson Crusoe life. Mr. Davies, on a desert island, was about as much at home as 'a whale in a field of clover.' He was a man who had always acted on the principle that to have a new hat once a week, new lavender kid-gloves every day, innumerable suits of clothes, no one of which he ever wore more than three times, to smoke the most expensive cigars, to drink the rarest wines, to eat the most costly meats, and consume fruits and vegetables only when they were entirely out of season, was good for trade. He now found, however, that this way of encouraging trade was not appreciated by his companions; he expected that the best of everything on the island would be brought to him for his acceptance, and that if he approved it he would have the opportunity of buying it and paying for it with a cheque drawn on a New York banker. His disgust when his cheques were refused, and when the dainties he coveted became the possession of those who could give either labor or other commodities in return, was amusing to witness. . . . .

"Poor Mr. Davies was a long time before he could get over his notion that the way to make everybody well off was for him to do nothing, and to eat as much as he could, and to destroy the products of his companions' labor as fast as possible. He was only prevented acting on this opinion by the stubborn resistance that was shown to it on the part of his comrades; and that the only demand for labor is that which is ready to supply commodities to the laborer in exchange for those which his toil produces. If you demand commodities, you must supply the laborer who produces them with an equivalent value of some other commodities or services. So demand and supply can not increase independently of each other. If demand increases, supply must increase at the same time. For instance, if Mrs. Collins wants the carpenter to make her a bedstead, she must supply him with a whole suit of clothes; if her demand increases, and she wants, besides the bedstead, two chairs, she must supply him not only with a suit of clothes, but with a dozen pairs of knitted socks into the bargain. It will be noticed, that if production increases, demand also increases; if, for example, Mrs. Collins finds out a new way of knitting, by means of which she can make three pairs of socks in the same time that she previously employed to make two pairs, her power of buying the products of other people's labor is increased 50 per cent. Her demand for these products therefore increases in consequence of the increased productiveness of her own labor. It accordingly happens that general prosperity and an increased demand for commodities nearly always go together; as the increase of production gives those who benefit by it greater power to purchase the products of other kinds of labor; in other words, increased prosperity makes a greater demand for commodities possible."

After following the Islanders in their history for twenty years, in which, untrammelled by many mischievous institutions of ordinary society, they had largely increased in number, solved some problems of political economy, created the germs of agriculture, manufactures, and commerce, and multiplied their instrumentalities for wealth, Mrs. Fawcett most provokingly leaves them then, there, and thus:

"There is nothing more about the little colony that I can remember, except that after being on the island for twenty years they were visited by H. M. S. *Leo*, the captain of which offered to take away half the colony in his vessel, and to send for the other half in a few months. Only twelve of them, however, wished to leave at all. The others thanked the captain, but said they didn't

wish to leave their island and begin life over again on the other side of the world."

Disliking to lose sight entirely of our interesting friends the colonists, we obtained the special aid of Queen Mab, assisted by an able corps of spiritual and clairvoyant experts, and are enabled to supplement their history down to a very late date.

Our industrious friends, especially after their inventions of labor-saving machinery, found their production in excess of their consumption, and, though by general consent, they shortened their hours of labor, bestowing more time to study and, in a rude way, to ornamentation of their village, yet surplus production increased, resulting in most remarkable accumulations.

For instance, Tom Porter, one of the sailors, invented and constructed a knitting machine, which enabled Mrs. Collins to knit as much in one day as she had formerly in ten.

While the poor fellow was evolving the same, he was so absent-minded that he capsized and lost three boats, and was nearly drowned a dozen times; hardly ever caught a fish, but on the contrary, almost daily lost his "hook, line, bob, and sinker;" got the reputation of being the most shiftless man in the colony, and, if report tells the truth, was more than once poked out of bed by his wife with a marline-spike to make the breakfast fire.

In consideration of all of which, as with the machine her power of producing stockings was multiplied by ten, Mrs. Collins agreed that she would give him half her products (less cost of stock), as even then she would obtain five times what she did formerly.

As Mrs. Collins, by very hard work, had been able to supply the people with stockings *before* the machine came, she now not only piled poor Tom Porter's hut full of stockings, but could not stow away her own surplus, until she put the price down one-half and ran half the time on gloves, when she got big pay, and kept herself and Tom Porter well stocked up with her accumulations.

The carpenter had a fearful lot of oars and clothes-pins. Enough fish were salted for a dozen years to come, and the trouble was, not how to get a living, but how to dispose of the surplus products.

A town meeting was held under a big banyan tree, and a committee of seven was appointed to report on the same, of which their old Captain (Mariner) was Chairman and Mr. Davies, Secretary.

The committee was unable to agree, but the majority, including Captain Mariner, reported thus:

"Your committee find that we have been hitherto successful in recognizing, obtaining, and retaining the great elements of 'the right to labor and to the proceeds of that labor,' but while every man is assured in the possession of his products, he is, excepting to the very limited extent permitted by barter, precluded from enjoying the products of other men's labor, though possessed of the will and ability to give therefor a full equivalent.

"Mrs. Collins wishes to build a factory, and Mr. Plane, our carpenter, would like to build it for her, as he has nothing to do, having made enough clothes-pins, oars, and broom-handles to last twenty years.

"But Mrs. Collins has nothing but stockings and gloves to pay for the same with, which Plane says are worse stock than his wooden-ware, as the moths are very destructive.

"Your committee are of the opinion that the growth of this township is now so large that, to a certain extent, the individual should be merged in the commonwealth as a first step, and should lay out the streets in an orderly and pretty manner; and next, it should erect public buildings for a church, a school-house, a theatre, a lecture-room, etc., using the lower stories for stores and work-shops.

"By this means the present tendency to excessive individual over-production and non-convertible wealth, would be diverted to collective or societary endowment. As an indication of exactly what each citizen's share in the proposed township improvement should be, a Board, a Council, or a Bureau should be formed, that should distribute or pay to each contributor in tokens, to be designated as may be decided—wheth-

er called dollars, pounds, tickets, or tallies—in as exact proportion as may be possible, according to his contribution to the same, such tokens to be the mediums for the transfer of values from hand to hand as the ratios of supply and demand may indicate.

"And the said tokens should be receivable at their face-value for whatever dues may accrue to the township, whether for rental of stores, halls, or anything else.

"Your committee think that the institution of such tokens would relieve the deadlock now prevailing as to the products and employment of industry, and by facilitating exchanges, enable the projected private buildings and other enterprises to be immediately begun.

"Your committee acknowledge great assistance in their investigation, and are inspired with the entire confidence in their recommendations from the perusal of a most valuable book by one Jonathan Duncan, kindly left us by our old friend, the Captain of H. M. S. *Leo*, from which we extract as follows:

"'Daniel De Lisle Brock, Governor of Guernsey, was waited upon by a deputation of the principal townsmen of St. Peter's, who requested his countenance and assistance towards the erection of a covered market, much wanted in that town. The Governor readily consented, and asked in what way he could assist them most effectually. He was told that the principal difficulty was to raise the required funds. The Governor replied that if that was the only difficulty he thought he could surmount it, but would ask first, if they had the requisite stores of bricks, timber, granite, and flags, but, above all, had they the skilled artisans and laborers required for the building of the market. They replied that there was no want of labor or raw material; that their difficulty was chiefly financial. "Oh," said the Governor, "if that is all you want, I will, as Governor, sign, stamp, declare legal tender, and issue five thousand one-pound market notes. With these pay for material and wages. Go to work and build your market." The market was commenced. The first effects were to animate trade by the additional circulation for payment for slates, bricks, etc., and to increase the customs of the shops by the expenditures of the workmen employed on the market. In process of time the market was finished, stall rents became due, and were paid in these notes. When the notes all came in, the Governor collected them, and, at the head of a procession, with some little form and ceremony, he proceeded to the town cross and publicly burnt them by way of cantelment.'"

FRIEDRICH FROEBEL,

THE FOUNDER OF THE KINDERGARTEN.

THE system of teaching young children which goes by the name of "kindergarten," has become of late years well known in this country. The history and character of the man to whom its invention and application were mainly due are not so well known to the public. Friedrich Froebel was a man whose retiring habits and social position prevented him from taking that place among his people which was eminently his, although the earnestness with which he applied his method of teaching in the schools with which he was connected, made him an object of warm regard in the place where he dwelt. He was born in the Thuringian Forest, at Ober Weissbock, in the Principality of Schwarzberg Rudolstadt, on the 21st of April, 1782. His father was a minister in that village. His early life was not one of pleasantness. When but an infant his mother died, and the pastor, whose parish was large in territorial extent, had no time to devote to household matters and his children, so that they were left to the care of servants. His father married the second time, but the new mother did not indicate much affection toward her step-children, especially after she had some of her own. Friedrich did not, as a child, show facility in learning; his father found much difficulty in instructing him in the simple elements of education, and as he grew up his

sensitive nature shrank from the dispute and conflict which often made his home their theatre. At the age of eleven an uncle, also a minister, came to visit his father, and conceiving a fondness for him, requested Friedrich's father to permit him to go and live with him in Stadtlim. In this new home he found advantages which had been entirely unknown in his previous life. There his mind was awakened, and he studied with freedom and success. The time having come for acquiring a knowledge of some trade, or avocation, his father sent him to a forester to be taught woodcraft, geometry, and surveying. With the forester, Froebel had opportunities for private study, and used them in acquiring a knowledge of botany and languages. Much of this study was done in so much secrecy that the forester was not aware of his industry, and on the conclusion of his apprenticeship, that worthy man wrote a letter to Friedrich's father, stating that he regretted that the young man would return home with but little information, and that it was altogether due to his lack of diligence and industry. His father taking this statement as true, did not welcome the son very cordially upon his appearance at home.

In his eighteenth year he was permitted to study in the University of Vienna, where he gave special attention to the physical

sciences, living in a very retired and economical fashion. He was subsequently sent to a farm to learn its practical methods, his father being desirous that he should devote himself to agriculture. But young Froebel had very little taste for this vocation aside from the opportunities afforded to study nature scientifically. After the death of his father he occupied several positions in succession in different places. At length in Frankfort an opening presented itself for entering upon that line of activity which was in keeping with his capabilities and yearnings. He was offered the position of a teacher, and accepted it. There he became interested in the Pestalozzian system, which had then begun to attract attention. Froebel was not altogether satisfied with the way in which the method was practiced, and after a year or more of observation and thought upon the relation of the teacher to the pupil, he concluded that the first requisite and true mode of teaching was to live with one's scholars, and enter into all their feelings and pursuits. He went to Yverdun, where Pestalozzi had his school, and as a pupil with pupils studied the system of that great master. Next we find him in the University of Gottingen studying the Oriental languages and sciences. It was not until 1816 that he made the attempt to establish a school of his own, and then in a small Thuringian village, with five pupils his labors began. The times were those of scarcity; the nation was still disturbed by the consequences of the wars of Napoleon, and it was no difficult undertaking for Froebel to maintain his educational enterprise, its very novelty being one of the obstacles to pecuniary success. He says that from 1817 to 1827, when he left the school, its affairs were in a state of chronic bankruptcy. His trust, however, in the final success of his cause was unwavering. In 1818 he married an accomplished Berlin lady, who proved a true helpmeet in the conduct of his household as well as in the management of his school.

One element in the opposition to Froebel, the one by no means inconsiderable, was that of religion. Priestly influence arrayed itself at first against him, declaring his new methods pernicious in morality. After giving up his school in Thuringia, Froebel appears to have experienced many vicissitudes. At one time losing heart in his own country he went into Switzerland, and made an effort to establish a school there. He had a season of happiness in Burdorf, where, in 1835, he was made Director of an orphan asylum by the Cantonal Government Director. He had no persecutions to endure in the free atmosphere of Switzerland, and the Government even sent young men to him for training as teachers.

The idea of the kindergarten was uppermost in his mind, and he busied himself with interesting and developing the minds of the children. His aim was to arrange the gifts, or apparatus peculiar to the system, so as to form a harmonious series, one logically preceding another. His wife's health becoming impaired, he found it necessary to leave Switzerland for her benefit, and went to reside for a time in Berlin. There he worked out more completely his ideas of infant culture, visiting nurseries and infant schools which had been established under royal patronage. He began also to edit a weekly paper, with the title *Ein Sonntags Blätter*, a Sunday paper, published in Leipsig, in which he explained his method, and his "gifts," or school material.

In the little town of Blanckenberg in Thuringia, at no great distance from his old home, a house was taken for the practical test of Froebel's new occupations. Children came to him, and the method, after a little trial, was found to work most favorably.

In 1839 Froebel went to Dresden, where he lectured upon his educational system. The Queen of Saxony, and other distinguished persons, showed their interest in the new mode of education by their presence and attention, and a school was started under the direction of one of Froebel's pupils. In the summer of 1840 he resumed his activity in Blanckenberg, from time to time extending its facilities, and adding fresh features; one of these, a training-school for mothers and young girls, is important enough to be specially mentioned. In 1843 he published his book, "Mother's

Cosseting Songs," with illustrations and music. In 1849 he found it expedient to remove his training-class to Liebenstein, in the duchy of Meiningen.

The kindergarten system had, by this time, won the approbation of several of the German nobility and of the people wherever it had obtained a footing. In 1851 its superiority over other methods of juvenile training had been so abundantly demonstrated, that there was no question about its adaptation for that purpose. But then Froebel was to receive a severe blow. The Prussian Government mistaking the influence of the kindergarten method, and probably won over by bigoted short-sightedness, issued a decree, characterizing public kindergartens as dangerous to society, and suppressing them. Froebel felt, after the promulgation of this decree, as if his whole life-work were crushed. His susceptible nature shrank from the suspicion and opprobrium which such a public measure would cast upon him, and for upward of fifteen years he and his great work lived under an unjust ban. In 1866 the decree was revoked. Fifteen years were required to make the officers of the Prussian realm acquainted with the high moral and social principles of the kindergarten, and to clear away the scales from their eyes which prevented them from viewing it as some contrivance tending to undermine the foundations of the political fabric.

Froebel was getting on toward old age when this proscription was levelled at him, and coming from a source so unexpected, it seriously affected his poise of mind and body. Nevertheless, he worked on, conducting his school, and replying to the personal attacks made through the public newspapers. He outlived the publication of the decree a little over a year, dying on the 21st of June, 1852.

Froebel had married a second time; in fact, but a few years before his death, and his widow faithfully kept up the school begun by him, being in perfect sympathy with his motive and objects. One of Froebel's warmest friends and supporters, the Baroness Marenholdt, says that "he had great simplicity of heart, of morals, of character; he was humble as a child; the expression of his face was so pure, innocent, and childlike, even with hair white as snow, as I have never seen again in any other human being. . . . Devoted to his mission, he abandoned for it, not only renown, but his most beloved pursuit of natural science, of which nobody, perhaps, saw the mysteries and secrets so well as he, but which he only would make serviceable to the perfection and sanctification of the immortal human soul."

Several years ago the kindergarten system was introduced into this country, and has found favor wherever the attempt has been made to establish a school. It seems very likely that it will prove the parent of a more effective and harmonious system of juvenile education than this country has known. The improvements which have been grafted upon our general system of common schools find a very harmonious adaptation to the methods of the kindergarten.

"ON THE FENCE."

BY LYDIA M. MILLARD.

Once in a fearful battle
The birds and beasts engaged,
To prove which were the greater,
And high the contest waged.

A bat, from his position,
Thought neutral he'd remain,
Until he knew for certain
Which side was sure to gain.

So, from a fence commanding
A most extended view,
He watched the birds' hard fighting,
And watched the beasts all through.

He kept his wings and spirits
So very fresh and cool,
Watching each party's merits—
Predicting which would rule.

At length, the beasts prevailing,
He active joined their fight;
The birds, a rally making,
Was found with them at night.

At last, when peace concluded,
Since he for both did fight,
Nor bird nor beast would own him—
He skulked away from sight.

Since then, earth's holes and corners
Are his abiding place;
Except in twilight's darkness
He durst not show his face.

. . . . . .

How many men are sitting
Like bats upon a fence,
'Waiting a breeze befitting
To jump off hence or thence.

As in the world of thinking
Two sides must always be,
Each great soul unshrinking
His own right side will be.

Better a nail's firm power
In the humblest cot unknown,
Than a cock on the highest tower,
That moves with the wind alone.

THE SEA TUMBLER.

As science progresses with its investigations we become more and more deeply impressed with the fact that the great world of nature teems with wonders. On land, in the sea, and in the air there appear to be numberless organisms, whose bodily structure and peculiarity of habit startle at first sight even the most learned among naturalists. The visitor to an aquarium on a large scale, finds in the tanks much material for reflection upon the origin and nature of the universe. The strange fishes which have been gathered from remote regions burst upon the view like a revelation, as he proceeds from tank to tank. Expeditions which have gone out with a view to taking soundings of different parts of the ocean have brought from its gloomy depths varieties of fish totally unknown before.

The Sea Tumbler.

The illustrations herewith furnish views of a very curious marine creature, which was found in the waters of the South Pacific by the officers of an ocean survey, a few years since. This little animal requires somewhat close observation in order to ascertain the character of its formation. It is a minute crustacean, or shell fish, or, as we might more clearly say, a member of the lobster and crab family. The name by which it has been introduced to science is Phronima. In ordinary parlance it is very appropriately termed Tumbler of the Sea. In some respects it appears to be a combination of the crab and fish, having feet like the crab, which are adapted for walking upon the beach, or bottom, and an apparatus, or swimmerets, for swimming. Its peculiar organization has placed the phronima in the order *amphipoda*, or double-footed. Its head is long, and joined crosswise to the body; its eyes, which are very numerous, are distributed, some on the back of the head, some in front, and others on the sides of the head; the mouth and swimmerets are red in color, while the remainder of the body, including the bony case, is almost transparent.

Like one of its relations, the hermit crab, the phronima mounts a little second-hand, barreled-shaped tube, which has served the purpose of another marine creature, and

been abandoned, and in swimming appears to go tumbling head over heels through the water, exhibiting some of the oddest of antics. Its smallness renders it all the more interesting, its tube, or case, being only about five-eighths of an inch in length, and in breadth half an inch. Naturalists are of opinion that it is the female only which adopts the extra barrel or tube, making it a receptacle for her eggs and the apartment in which she brings up her young family. In our illustration, the eggs and young are indistinctly visible through the wall of the tube. When swimming, the phronima has her head and three segments of the thorax, or neck, inserted into the tube, and holds fast to it by her third pair of legs. Sometimes, on the approach of danger, she draws the whole of her body within the tube, thus, like the snail, obtaining safety from the attack of many foes.

HOW JENNY TOOK CARE OF HER.

WE came across the following little story years ago, and now it turns up again. There is a lesson in it which old as well as young may ponder:

A child ill with hip disease was brought into a certain asylum in New York—a little girl of five years old, who, from fright or weakness, cried bitterly on her admission. Another girl, a little Swede of about nine, heard her. "Is she crying because she has left her mother?" she asked the matron. "No; she has no mother; she is an orphan." "Her friends, then, may be?" "She has no friends; she has nobody in the world to take care of her, unless she finds one here." Jenny, the little Swede, stood for a minute or two soberly looking at the stranger. She was not a pretty child, nor attractive in any way, being homely, diseased, and ill-tempered. "I think *I* will take care of her," said Jenny, gravely. "I'll be a friend to her;" and she went over to the stranger, then and there, and began to soothe and humor her. The matron, thinking it only a passing childish outburst, paid no attention to it, even when she found that Jenny had secured a seat at the table next to the child, and had managed to have her placed in the bed next her own in the dormitory.

When the story was told to us, a year afterward, the little girl had never failed once in her self-imposed trust. As far as was practicable, she took the place of a mother or elder sister to the child, who, still lame and suffering, needed a constant attention and care which the matron and nurses could not give. She cut and prepared her food at meals, humored her peevish fancies during the day, and at night was in the habit of lying down half dressed, to be ready to spring up at a moment's warning, and she passed many a night, it was discovered, holding the child's head in her arms or soothing her.

On any holiday or when visitors came, Jenny's first anxiety was to make her little charge presentable, just as a fond mother would do; and when the children were once given an excursion, or an afternoon's romp in the grounds, Jenny had an excuse to account for her not going, and actually, although her tears choked her, she being but a child, would have stayed, patient and cheerful, beside the lame child, who could not go, if her deception had not been found out. The singular part of the story was, too, that the child was not a lovable nor grateful one; but peevish, jealous, and tyrannical toward her poor little nurse, who apologized for and made the best of her to others, after the habit of mothers. There were many other children in the asylum prettier and more winning; but Jenny was true to the one whose only recommendation was, that "she had no friends."

HOW TO TEACH.*

LOCALITY—*Continued.*

EVERYBODY knows that carrier-pigeons have been used for centuries to send army dispatches home over the heads of hostile foes. In the late war between France and Germany, the beleaguered city of Paris was kept in communication with the army at Lyons by means of carrier-pigeons. Before communication had been cut off by the besieging army, some Paris pigeons had been taken to Lyons, and pigeons from Lyons having been taken to Paris, and kept for the purpose, messages could thus be sent by the pigeons both ways, keeping the government and the army in intimate correspondence.

THE BEE-LINE.

It is also well-known that bees fly in a straight line when they have loaded themselves with honey. Hence a straight line is called a "bee-line." Having thus been wandering from flower to flower, in a thousand circuits, until loaded, it takes a sweep in a circle, say ten yards in diameter, as if to collect itself, then darts off in a direct line for its hive; and it will come back again into the same vicinity, if the place be a desirable one, to reload with honey. Bee-hunters, taking advantage of this fact, put their honey-box or trap where it will attract the bees as they are flying back and forth. Finding it easier to load themselves from the honey than from the flowers, the bees light upon the bait; and when they start for the hive, or tree where they live, the straight line which they take indicates to the hunter the direction of the tree, and thus by following in that line, with the box of honey, a short distance at a time, and depositing it before the bees return, the hunter gets after awhile near enough to the bee-tree to trace the bee direct from the bait to its home, when the bees are treacherously robbed of their treasure of honey.

The faculty of Locality in the bird, the bee, the pig, the horse, and the dog, is the foundation for these wonderful results. If, then, bees have this instinct of place; if animals, large and small, manifest the same trait; if birds that go South in the winter remember and come back to the same place they occupied the summer before, it shows that there is an instinct or faculty for remembering place and direction. It is a doctrine of phrenology that whatever faculty can be found in any of the lower animals, a corresponding faculty will be found in the human race. Man himself, in respect to faculty, is all that can be found in all the beings below him, besides having that which animals lack—namely, the higher reason and the moral sentiments.

ROAMING FOR THE RESTLESS LOVE OF IT.

Those in whom this organ is large and the faculty active, have an insatiable thirst for traveling, and many thus become rovers, going around and around the world; and there is nothing of which they feel so pleased and proud as to say they have been in every country on the globe, and also in every large city. We know a man who made a special journey to visit a county in his native State, within the confines of which he had never been, for he felt ashamed to say that there was a county in his State that he had never visited. We often hear people say: "What does

* From "How to Teach, according to Temperament and Mental Development; or, Phrenology in the School-Room and the Family." By Nelson Sizer. S. R. Wells & Co., New York, Publishers. Price, by mail, $1.50.

he know? He has never traveled!" Another says: "I am posted. I have seen the world. I have been all over!" as if having traveled hither and thither was a great acquisition and a high culture. It is one form of culture, and a good one. He who has never left his native home—more especially if he has no particular disposition to study geography, and thus travel, in imagination, by using the maps and charts of the world, having never seen anything but his own neighborhood—has, in one respect, a very narrow mind. Some men have little desire to go to see any place which is not visible from their own door-step. They go to church, to the store, to the post-office, blacksmith-shop, and grist-mill, and seem to have no interest to go beyond. We saw a man who lived all his life within seven miles of Niagara Falls—indeed within hearing of its roar—and he had never visited it, though he was a man of sense and of property. A gentleman told us that his father, who resided within forty miles of New York until he was seventy years of age, and had secured an ample competency in business as a farmer, being worth many thousands of dollars, yet he had never been to New York. The faculty of Locality must have been very dormant within him. We remember to have examined a man who was born at the head-waters of the St. Lawrence, on Lake Ontario, who had such a thirst for seeing distant places that he broke away from all restraint, at seventeen, and engaged in lake navigation, from the simple desire to see Niagara Falls, Buffalo, Detroit, Chicago, etc., because he had not the means to make such a journey except by working his way, and he remarked with a kind of exultant feeling: "I have enlisted in the army as a private soldier, though I leave a good farm, and a loving wife and family at home; but I so desire to see Baltimore, Washington, New Orleans, and other large cities which, as a soldier, I may have the opportunity to visit, that I take the risks. If I live to return, I intend to cross the ocean as a sailor, that I may see portions of the Old World." This man, we noticed, had the organ of Locality enormously developed; and having dwelt at length upon it, he gave us this scrap of his history in confirmation of our description of him. Such persons leave home with pleasure; and though they have ties which unite them to their friends and home, their master-passion leads them to forget every inconvenience and privation which leaving home, and being among strangers, is calculated to produce. If Humboldt, Sir John Franklin, Bayard Taylor, Dr. Kane, Dr. Hayes, and others, had been less endowed with this faculty, the world would never have read of their wanderings, and the knowledge acquired by it, with such intense interest. To go somewhere, and to see something, is a very strong trait with such men, and the world is very greatly indebted to them for the explorations which have grown out of the activity of this faculty. The bust of Capt. Cook, the great navigator, and all his portraits, show an immense development of this organ. See Fig. 21.

CHESS, CHECKER, AND BILLIARD-PLAYERS.

This faculty aids the player of checkers and chess, and no man can play billiards with success without its activity, and also that of Size, Weight, and Form. Locality gives the idea of direction; Weight gives a sense of the proper force to drive the ball with the requisite momentum, so that, hitting another ball, the resistance shall be just sufficient to produce the proper angle or direction to hit a third ball, with the proper force and right direction, to send

it to its pocket. Billiard-players will understand this.

It is known that some great chess-players can play many games blindfolded, and keep the real and relative position of all the men on the chess-board, on as many as six or eight boards at the same time, while every move on the several boards changes the relation of the pieces, and the memory of the location of all these must be held in the mind. We think it is a very severe tax on the mind, and one that would hardly pay for the strain; and we are not surprised to learn that one of the greatest chess-players of the world was recently compelled to make his retreat in an insane asylum.

USES OF LOCALITY IN GEOGRAPHY.

The reader will now be prepared to understand some of the uses of the faculty of Locality in the study and teaching of geography. Suppose the teacher is in Boston, New York, Philadelphia, Baltimore, Richmond, New Orleans, St. Louis, Chicago, or San Francisco. His pupils, of course, wherever located, must obtain an idea of the places they are to study about, which, in their early years, they have heard of, but never seen. Not one pupil in ten, in Boston, for instance, may have ever been in any other of the principal cities in the country, and even the major part of that city he has never seen. He knows the road to school, to church, to the houses of a few of his relatives and friends, and perhaps to the cemetery, and that is all the geography he has learned practically; but when he opens his book, he is fortunately not now obliged to commit to memory a long description of how the Ohio River is formed, and remember it as a statement, as his grandfather had to do. He is not obliged to remember, as a lesson to be committed verbally, that New York is some 200 miles from Boston, in a south-westerly direction. He looks on his map and sees for himself, and instantly the faculty of Locality gives him specific consciousness of the direction; and if he knows which way north is, if the teacher were to ask him, "Where is New York from Boston?" he would point almost near enough in the right direction, if the line were extended, to touch the little island on which the city is situated. Ask the pupil the direction to Buffalo, and he will look up with utter astonishment; but if he will turn to his map, he will find that it is almost directly west from Boston, and that his eye takes in Albany, Schenectady, Syracuse, and Rochester on its way over the map to Buffalo. Then he gets an idea that these places are directly west of him. If he is directed to continue the journey, he will find Detroit, Chicago, Omaha, Denver, Salt Lake City, and San Francisco; and though the line has to bend a little to hit all these places, the distance is so great that a "westerly direction" will be sufficiently accurate to describe their location. The pupil in Boston learns that New York is located south-west; also Philadelphia, Richmond, and New Orleans. When these and other important places are learned by the pupils on the map, under the direction of the teacher, the maps should be closed, and each pupil should be questioned quietly as to the location of places which have been the subject of study, and it will be observed that perhaps three out of four in a class will have a pretty correct notion of the direction. But one-half of the pupils will need some training. They are not brilliant in respect to the law of direction, and they learn the facts from the other pupils; and thus they are stimulated to renew their efforts, and many

of them will go home and study their atlases with fresh interest.

STUDYING GEOGRAPHY IN NEW YORK.

Let us leave Boston, and enter a New York school. They have the same atlases, the same maps of Canada and the United States. The teacher asks: "Where is Boston situated?" "South-west" is not the answer, as it was in Boston; but on the other hand, "north-east." Whereas Albany is north, but in Boston Albany was west. "In what direction is Buffalo from New York?" It is not west, as it was in Boston; but it is north-west. And so Schenectady, Utica, Syracuse, and Rochester, each have a different local direction from New York, but they are all practically west of Boston. Having traveled, then, 200 miles south-west to New York, we find that all the places north and east of us, and many of those which are west, are not in the same direction from us as they were in Boston. When we are in New York, and ask the direction of Philadelphia, the answer is "south-west," the same as from Boston, and Richmond is almost in the same direction, and so is New Orleans; but at New York we have not gone far enough south from Boston to change materially the line of direction of places so far away as San Francisco; but when we consider Cleveland, Detroit, and Chicago, the line of direction is different.

GEOGRAPHY IN PHILADELPHIA.

At Philadelphia a class of pupils, like those at New York, would look north-east for Boston; but in reference to Buffalo, again a different angle of direction would be assumed from that which would be correct in New York. So of all the other places between Buffalo and Boston. Albany, the capital of the State of New York, would no longer be north of the student, but east of north. If we go to Cincinnati, Buffalo has become north-east; Philadelphia, almost due east; New York and Boston, north-east; Chicago, directly north-west; Detroit, almost directly north; Charleston, south-east; and New Orleans, south-west or west of south; while the capital of Texas would be almost south-west; but San Francisco is west, and Montreal would be north-east, while at Boston, Montreal is north-west, and at New York and Philadelphia, nearly north.

Going to New Orleans, everything again changes in relative position. Suppose a teacher worked a year in Boston, a year in New York, a year in Baltimore, another in Richmond, another in Cincinnati, another in Chicago, another in New Orleans or San Francisco—and such a thing is possible—his teaching of geography, his conception of it, would be very different from year to year.

A SCHOOL ON WHEELS.

Now why not have pupils taught, while in Boston, to place themselves in New Orleans (in imagination), with atlases closed, and be required to tell from there the direction of every other place. A large outline map might be made on the blackboard, showing the Canada line, the Atlantic, Pacific, and Gulf coast-line, not nicely drawn, but simply in rough outline; and the teacher, with a long wand in hand, might ask the school the location of some particular place. He might put the stick in the center of the board, and ask how he should move it in order to locate Boston; and he would continue to move it, under their direction, until one said, "Stop." And some one would say, "Move it a little more to the right;" another would want it a little more toward the top; a third would say, "A little more toward the center," until they had located Boston to their satis

faction; and there let a mark be made with the piece of chalk that is fastened to the end of the stick, and if he chose, he might put a letter B there. Then let him ask for the location of San Francisco, and the pupils would be wide-awake in telling the teacher how to use the wand, until they were satisfied that it rested in the right place, and then let him make a mark; and so he might locate, according to the judgment and direction of the pupils, till he had all the principal places in the United States located. If the pupils were in grave error about the location of any place, the teacher should settle it before he made the mark; but he would soon find that the pupils would be wide-awake under this sort of teaching, and he would have to keep his eye on the atlas in order to correct the localities which they unitedly would make.

Having made these localities on the blackboard, he would take his school, in imagination, to Chicago, and ask them what then would be the location of all the places they had marked down. Imagining themselves in Chicago, they would learn to judge the relative location of all these places; and when they had settled upon what the location really was, meridians might be drawn east and west, north and south, and then they could very easily determine the nominal direction from one place to all other places.

Then the pupils should move to Montreal, and consider the direction from that place to all other places, and so from one part of the continent to all the other parts, until their minds became so familiar with the geographic locations that they would only have to think of Cincinnati in order to know how to locate from that place all other places.

Having attained to this point, and the pupils being familiar with the method of locating the different places, and of course knowing in what States they were respectively, they would very soon begin to understand so as to know how to draw maps. The teacher could then stand with his wand, with chalk attached to the end of it, and ask what direction he should draw a line, beginning at the north-western boundary of the State of Maine, in order to describe that State, and he should go slow, under the direction of the pupils, and stop when they said "Stop." Then he could go on with New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut; then the great States of New York, Pennsylvania, and Ohio. The mistakes which would be made thus, under the direction of the pupils, would be apparent, and of course amusing. They would get their States laid out, and perhaps have a great deal of territory left; but they might draw the outline of the New England States, and then draw the States of Texas and California. Or it might be better, perhaps, to draw the rivers and great lakes first, for these are natural boundaries, and have the political divisions come in afterwards.

It will be seen that, in this method of teaching geography, the faculty of Locality is brought into exercise. The moment we begin to draw the maps of the States, the faculties of Form and Size are brought specially into use; but the mere outlines of the States have more to do with the faculty of Locality, because that relates to direction, and if a pupil studies his map, he will see the direction of the outlines of the States. The faculty of Form will give him the general shape of the whole; but as geographic outlines are made first, Locality takes into cognizance the direction of the lines.

GEOGRAPHY A LIVING FACT.

Instead of the dry drudgery of looking at a map, or studying the text of a geography, let the questions of geography become a literal fact to the pupils. Chicago will become interesting to him, besides its mere name—for it has a place, and a direction, and a distance from other places. The question of distance of course involves two faculties—one that of Size, and the other that of Number, or Calculation, since it is expressed in numbers. But a pupil looking upon the outlines of maps with the great towns upon it, if he can know that it is 2,500 miles from Boston to San Francisco, and 1,200 miles from Montreal to New Orleans, and 200 miles from Boston to New York, or 150 from New York to Albany, or 90 miles from New York to Philadelphia, he will very soon learn to estimate distances on the map from one place to any other place.

We submit that this is the kind of geography that pupils should be taught in school. It is never learned now until the pupil has traveled it. We laugh over the ignorance of people on the other side of the water, in respect to the geography of America, when, in point of fact, if we were asked questions in regard to the Old World, without having an European map before us, we would make blunders equally ridiculous. During the war we saw in an English paper a description of "Jersey City, opposite New Orleans, on the west bank of the North River." Letters are sent sometimes from England to "Boston, State of New York;" and Boston is spoken of as the "capital of New England," as if there were not five other capitals of as many other States in New England; besides, until recently, two States with duplicate capitals. When a man starts out for the first time to make a journey of 1,500 miles, it amuses one who has a practical knowledge of the geography of his country, to hear the questions such a man will ask, and see with what wonder he will look over his map in the railway guide.

The utility of such a practical knowledge of geography must be manifest to the reader, and if he will learn it for himself, he will feel that it is a source of pleasure. It makes him almost ubiquitous. He can stand in the capital of any State by imagination or in fact, and seem to see all other States, and all the places of importance in them. He can thus go everywhere and yet be at home. He is not a scholar in geography until he can do this.

Let us now imagine the atlases closed, and let the pupils in geography, little and large, be in session for instruction, in what we will call mental geography. Would not all the pupils know the statement that Albany is north of New York, or that it is west from Boston, or east from Buffalo? That statement might be learned just as we would learn the rigmarole—

"Thirty days hath September,
April, June, and November," etc.

That is a rehearsal like a stanza of poetry, and we thereby get the facts as to which months have thirty days and which have thirty-one, as a *statement;* but the intrinsic fact of the days in each month of the year should be remembered independently of that rehearsal. So we might learn to rehearse facts in geography. One might lie in bed, in some place far from home, without knowing which way from him is north, or south-east, or west; and it would be well enough then for him to say, Albany is west of Boston and north from New York, and east from Buffalo and south from Montreal.

NELSON SIZER.

It is only by training all together—the physical, intellectual, and spiritual elements—that the complete man can be formed.

A SUMMARY OF HYGIENIC SCIENCE.

IT is commonly supposed that the most ordinary mind is able to distinguish the healthy from the unhealthy. In many cases they can; but not as a rule. For instance, it is generally considered that obesity or fatness is a sign of good health. No greater error was ever entertained. Adipose tissue is essential to the rotundity of the body and to good health; but when in excess the surplus is not only useless, but detrimental to well-being. It is a diseased condition of life; just as much as an emaciated condition of body is an evidence of morbid vital action. Suffice it to say, that the functional integrity of the vital organs is disturbed in a greater or less extent when the body is in either a condition of obesity or emaciation. No respectable physician would risk his or her reputation in an attempt to controvert this view of the matter. Let this delusion be dispelled and abandoned as soon as possible, and it will be as soon as the people are intelligent upon the health question.

Dr. Trall defines health to be "normal vital action—the normal play of all of the vital functions; and this means that state or condition in which each organ and part performs its own duty." In my own language I call it that condition of life in which the powers of the economy are at the normal standard. These definitions refer to perfect health. Such a state of human life at the present day among civilized nations, probably is nowhere to be found. It exists only as an ideality.

The terms robust, good, feeble, delicate, etc., are commonly used to designate different degrees of the healthfulness of the living structure. Slight variations in the action of the physiological functions should not be considered as abnormal or unhealthy. Nature allows us a liberal deviation from regularity of vital action without any great, if any, detriment or inconvenience. Good health may be considered that condition of life wherein there is a moderate regularity of the action of all the vital functions.

How to keep well when well is an attainment or a possession of much value. If there is such an acquisition, few persons in these days acquire it. Certainly no one will attempt to deny the existence of certain agents that promote and preserve the health when they are properly used; nor is there any one who maintains that health is a mere matter of chance. Health is dependent upon certain established natural laws. The knowledge of these regulations of nature constitutes the science of life. Hygiene, or the art of preserving health, consists in the application of this knowledge.

The leading principles of Hygiene are reducible to a few simple rules.

One of the first and most important is the use of good, wholesome food at regular times, and in quantity sufficient to supply the needs of the system. There is some diversity of opinion in respect to what constitutes the best food for man. Some say that it should consist of vegetable and animal products; while others claim it to be a regimen exclusively vegetarian. If authority is to be our reliance and guide in determining which of these positions is the correct one, the conclusion would be subject to the bias of prejudice and education. There is high authority on both sides. Cicero says, "We ought to place more reliance on reason than on the weight of authority."

This is the only true way to settle all questions. It is an established fact in science that all alimentary compounds are produced by vegetable growth and development; and also, that no animal forms, but only transforms these substance into its tissues. The products of animals feed plants, and *vice versa*. This is the order of nature. No human ingenuity can change it. Again, the animal that bears the closest resemblance to the human species subsists in its native state upon vegetable food. There are a few instances in my personal knowledge of individuals who have adopted a vegetarian regimen, and with it obtained better health and greater powers of endurance; and many instances of those who almost, but not quite abandoned the use of animal food, and with beneficial results. When vegetables and grains are of poor quality, and made much worse by bad cookery, a well-prepared, mixed, and selected diet is, without question, the better one. The flesh of the herbivora is a much better article for human food than many of the farinaceous preparations of the present day.

The so-called auxiliary or accessory foods are not to be recommended. None claim them to be alimentary in their character. They modify or change the vital action in the same manner that all unusable materials do that are introduced into the vital domain. They are abnormal things, in the true sense of that term. Then in the use of all accessory aliments, the less the better.

It is not our purpose or province to enter upon an elaborate discussion of this subject. But from the few facts presented, the candid and reasonable mind can not fail to see that the most wholesome regimen consists of grains, fruits, and vegetables, when good of their kind and properly prepared.

Regularity of meals should be the rule. There are but few graver causes of impaired digestion than that of irregularity of eating. This eating between meal-hours is a pernicious practice. It matters not so much whether a person eat two or three times a day, provided the food is of good quality and is taken at regular times. The quantity is easily adjusted to the proper amount, when the above precautions are taken. Voracious appetites and gluttonous habits are the natural results of the use of unwholesome food and pernicious beverages.

Cleanliness is an indispensable condition of human health. Many persons are not aware of its importance. Experiments have conclusively proven that a healthy person excretes about three and one-half pounds of organic matter from the external skin in the twenty-four hours. Now, if any of this material is retarded in its exit from the body through the skin, more work will be imposed on the other excretory organs. If this is prolonged for some time, the integrity of the action of these organs will be more or less impaired. A proper use of water will generally prevent the impaired health which would otherwise result from such a cause. It is surprising that so many individuals neglect their person in this respect. So many are afraid of water in cold weather. The bath and ablution are almost as essential to cleanliness and health in winter as in summer.

Probably many of the disorders that prevail so extensively and fatally in the winter months might be greatly mitigated, if not entirely avoided, if proper attention were given to this subject. A brisk rubbing of the entire body with the dry hand each morning, just after rising, and each evening just before retiring, are excellent means of promoting balanced circulation and preserving the health. A full bath of mild temperature, or a tepid ablution once or twice a week, are of much benefit to most persons, and there are but few individuals who can neglect these hygienic means without an impairment of the health. The clothing worn during the day should be removed *in toto* on going to bed. This rule should be observed for manifest reasons. Why we mention this and insist upon its observance is because so many persons entirely disregard it. A rigid cleanliness in dress and habitation is not only an indication of good breeding, but is conducive to the preservation of health and prevention of disease. Soiled linen, dirt, and refuse should be viewed as the deadly upas tree, spreading contagion and sickness all around.

Good air is in demand in many dwellings,

churches, and lecture-halls. Much as is known of the importance of good ventilation, it is surprising how much it is neglected. In the dense and crowded cities the hygienic nostrils are continually insulted with the fumes of tobacco, and the noxious gases arising from filthy back-yards and poorly-drained privy vaults. The individual who lives in such places can not avoid breathing such air until cleanliness becomes a public virtue, and the devitalizing condition is suppressed. In rural districts, as a rule, the air is more wholesome with the exception where the farmer persists in having his pig-sty and stable near, if not adjacent to, his back-yard gate. Let all such nuisances be discontinued. If swine-pens must be kept, let them be far away from the dwelling. Too much attention can not be given to this subject of breathing pure air. Rebreathed air is poisonous. The unimpaired sense of smell is sufficient for all practical purposes to warn us of the presence of an impure atmosphere.

Exercise, or "something to do," is an essential condition of good health. An old writer observes: "Ease is not to be acquired unless it be combined with toil; for indolence is generally attended with dissolution." Truly, life is only compatible with exertion and action. Few do not know that playful and lively children are generally healthy, and that indolent and indisposed ones are usually sickly. I am disposed to think that laziness and indolence are dependent upon an abnormal condition of the organism, and that the healthy adult can not be otherwise than active in body and mind. Exercise should never be violent or irregular. Systematic labor, whether of body or brain, is better for the individual, and is usually more effectual. Those who have no work to do have a weary, wretched life; they have no motive or incentive to action. Give them something to do—some good to be attained, or some evil to be avoided—and their imaginary ills will vanish, and you will make them useful and happy.

> "Nature lives by toil,
> Beasts, birds, air, fire, the heavens, and rolling worlds,
> All live by action; nothing lies at rest
> But death and ruin."

Lastly, a few words on mental influences:

Probably, there is no hygienic means that has a greater sanitary influence than that of a cheerful and well-tempered mind; and perhaps nothing exhausts the vital energies and disorders the bodily functions so effectually as a fretful and irritable mentality. Let the passions be our servants, and it is well; but let them be our masters and they will not only rule, but ruin us. The moral and intellectual faculties have a powerful sustaining and preserving influence over the life forces. All who have ever felt the holy influence of love and the blighting tendency of hatred can not fail to appreciate this part of our subject. The passions should be regulated and controlled; they are not to be abhorred nor an attempt made to annihilate them. There is no faculty or propensity given us that will not contribute to our good when properly used. The use of every human endowment is good; their abuse is evil. A reasonable exercise of the emotions has a beneficial effect. Fame, wealth, and power may honorably command our aspirations. When such is the case, the exertion of the mind and exercise of the body necessary for their attainment are generally rewarded with energy, spirit, and health. Let it be known that the legitimate use of all our powers, whether of body or of mind, is conducive not only to our health, but also to our highest good.

Those who have been blessed with health almost all of their lives may think the regard enjoined here to special precautions and directions is puerile. But if health is maintained, a good of the highest value is secured.

Health is the instrument by which wealth, intellectual culture, and fame are attained; the essential to any positive and beneficial work. Health is the chain that unites us to friends, and makes our companionship a source of pleasure and profit. Health enables us to meet the ills, trials, and disappointments of life with fortitude and serenity; to worry not over the past, but to improve the living present with zeal and earnestness. Health enables us to be useful and happy.

With such incentives to the maintenance of health, surely none but the indifferent would be careless in respect to the employment of those means that are likely to guard them against sickness. NOVICE.

THE CAUSE OF SLEEP.

ON this interesting topic many savants have delivered opinions. Professor Preyer, of the University of Jena, in the course of an address before the Forty-ninth Congress of German Medicists and Anatomists, expressed the following opinion, quoting also from eminent authorities:

In proposing any theory of sleep, I start with the fact, that weariness of the senses, especially of the organs of sight and hearing, of the muscles, and of the nerve-centers, always produces a natural sleep, and as the organs of sense may be considered as the peripheric end-organs of the sensory nerves, and the muscles as the peripheric end-organs of the motory nerves, it might be said that sleep appears when the end-organs of the nerves are tired out. The reason of this is, not a solitary mental process can take place without oxygen, which the arterial blood carries to the brain. As soon as the ganglia-cells are deficient of this blood-oxygen, the higher faculties of consciousness are extinguished, the faculty of thinking is interrupted. Where the cell of the ganglia has plenty of oxygen, these faculties go on in their normal state. This supposition is not yet proven, but very probable. Alexander von Humboldt, in his essay *On the Irritated Muscular and Nerve-Fiber* (1797), uses the remarkable expression: although it does not look fair to affirm, that thinking consists in chemical processes, or that it is the consequence of mechanical concussions, still it may not be unphilosophical that, simultaneously with the thinking in the organ of the soul, chemical changes and fibrous movements appear, during which it requires more oxygen. In fact, numerous experiments prove that, of all tissues of the organism, the tissue of the brain, with the exception perhaps of that of the liver, is most able to extract the oxygen from the blood. After ligating the blood-vessel carrying the oxygen, the functions of consciousness cease; after numerous hemorrhages, sleep sets in. The cause of this is want of oxygen, for experiments demonstrate that states similar to sleep can only be brought on by withdrawal of oxygen. Animals kept in a breathing-space artificially closed were allowed, by the sole process of their breathing, to dislodge the oxygen by azote, and in the same ratio gradually the manifestations of consciousness decreased, whereas they again reappeared as soon as oxygen was admitted. The question is pertinent, whether also natural sleep may be produced, that at certain times the gray substance of the brain has less oxygen at its command, and whether this arises that less blood and thus also less oxygen is carried to the brain, or that as much blood as in the waking state flows to the brain, but that the oxygen is used up in a different manner? It has been often affirmed that this alternative has not been solved yet.

Marshall Hall and Haller believe that the veins are overfilled during sleep, whereas Blumenbach leans to the opinion that the quantity of blood in the brain is diminished during sleep. Durham, 1860, experimented on animals. He trepanned them, and observed the blood-vessels of the brain when the animals slept. He found at first a dilatation, and during the sleep a contraction of the blood-vessels, and came to the conclusion that during sleep a diminution of the quantity of blood takes place. But a closer observation evinces that these experiments failed to prove what they ought to have done, inasmuch as Durham narcotized the animals. It was not a natural sleep, but an intoxication. And we have Nasse's experiments, which do not agree with those of Durham. He trepanned the animals without narcosis, and did not find a contraction of the blood-vessels. Valentine proved the same in the winter sleep of marmots. They did not wake up during the process of trepannation, and no contraction took place. Hence we may conclude that natural sleep is neither caused by an increased, nor by a diminished, supply of blood, and the only supposition remains, that the oxygen during sleep is used up in a different manner from what it is in the waking state. During exercise of the brain, as well as of the muscles, a kind of peculiar material, called, "mate-

rial from weariness," forms, which accumulates in quantities corresponding to the intensity of the activity, is very oxidable, lays hold of the oxygen during sleep, and thus becomes oxidized.

This is the basis of our theory. It is necessary to prove the existence of such material, that it may form rapidly, and that it may produce lassitude and sleep. Berzelius already found, 1807, in dead muscles, kreatinic acid, and exhibited it, 1841, from the flesh of hunted animals. Dubois-Reymond, 1850, affirmed that the muscle in its quietude has a neutral reaction, with an alkaline tendency, but the active muscle exhibits an acid reaction. Liebig found that the meat of active wild animals contains more kreatin than that of tame ones. Helmholtz arrived at the same conclusion. Ranke enlarged these observations, and affirmed that kreatin and lactic acid are developed during the activity of the muscle, whereas the same at rest contains none. Claude Bernard already said, in 1850, that the active muscles use up more oxygen, and Ludwig confirmed it by quantitative experiments.

If, therefore, we acknowledge such a material of exhaustion in muscles, we may accept something similar for the lassitude of the nervous system, only we must distinguish between peripheral and central organs. I am not yet convinced whether the living contents of nerves can show an acid reaction. But it has been demonstrated in certain end-organs, by Dubois-Reymond, in the electrical organ of the shad (Wels), which gives a neutral reaction during rest, and an acid one during activity. An extension of such experiments is greatly to be desired, and especially in trepanned animals it ought to be established whether the reaction is less acid during sleep than during the waking state. It has been tried also in a different manner to found a psycho-chemistry, supposing that the secretion of phosphoric acid is increased, but the experiments failed in giving satisfactory results; and after all we gain nothing by such a change in the chemismus, inasmuch as the oxygen is used up by the brain, but the blood is venous just as well as during sleep. At any rate, it seems probable that also during mental activity certain products, material of lassitude, may form, similar to that from muscular labor. If, then, an exertion has been kept up for some time, such products of activity accumulate in such a manner, that immediately after its cessation a sudden discharge of oxygen may take place, to be followed at once by sleep. Let me remind you of the observations made in England. Captain Webb fell into a deep sleep immediately after having swam through the Channel and reached land; and it is well known that the same happens to runners after reaching their destination. In all such cases, the products of weariness have been formed so abundantly, that they extract with great rapidity the oxygen from the brain.

We must furthermore show, that we have to deal not only with such a weariness, but it must reach that degree that sleep follows. Here also Johann Ranke has demonstrated that by injecting such material, which forms in tired bodies, we may produce weariness in muscles not tired out, and after removal of the substance thus introduced, the muscle is able to work again. In our theory this lassitude is also caused by the accumulation of this material in the muscle, and it is a question, whether we may produce something similar on the intact organism. If we consider how very rapidly diffusible poisons, introduced in the stomach, produce their action on the brain, we may also suppose that such products of weariness, introduced into the stomach, may act very quickly on the brain. Numerous experiments prove the truth of this assertion. The manifestations are exactly the same as if the animals fell asleep of themselves. The reflex activity is perfectly preserved as in natural sleep, respiration is a little slower, temperature mostly somewhat diminished, the pulse slightly retarded. If we wake up the animals, they act exactly as if they were waked up from a natural sleep. Great care is necessary in these experiments; the light must be very mellow, not the least noise must be heard, and every stimulus must be kept off. But even where such extreme caution was not observed, it was proved that in many experiments with different animals the phenomena of sleep were clearly

demonstrated. From animals, I extended these experiments to man and proved them on my own person. Although finding many variations, I always observed on myself great lassitude after the introduction of Sodium Lactate. In some provers no symptom of weariness followed, but the same has been observed in provings made with Chloral. I invited physicians and scientists to aid me in my experiments, and in the short time of a year many valuable contributions were received. Thus, especially the researches of Lothar Meyer, in Berlin, and Jerusalimsky, in Moscow, gave no results in some cases, but in the majority they could claim favorable results. The unfavorable issues do not abrogate my theory, inasmuch as they may be ascribed to an incorrect application of the preparations, to the individuality of the prover, or to an impure chemical. Such negative results ought only to urge us on to make still more provings, for there may be cases, where merely by a chemical alteration of the gray substance a nutritive disturbance may arise, preventing the normal production of the material of weariness, and when introducing the same material artificially, it may attract the oxygen necessary for the performance of normal mental processes, and thus give time for recuperation to the cell of the ganglion; in fact, I do not doubt that thus many psychopathic states might be ameliorated.

Progress is only possible by co-operation in pathology, chemistry, and physiology. So in the chemismus of the gray substance we meet with problems of the greatest interest. We do not know why we can not, according to our fancy, keep awake or fall asleep for days or weeks. We do not know by what the voluntary differs from the involuntary, but we know that during sleep the will is wanting, and that the dreamer soars high into the airy mist. We can not yet fully explain such manifestations of a conscious state, still less can we deny them. It is too true that just here the fancies of spiritualism hold high court, but even this must not discourage us, for finally fancy must give way to the experiments, superstition to common sense and to exact science, for in all this doubting and learning one thing is sure—"die menschliche Vernunft ist kein Traum," though everything else may be a dream, man's reasoning power is no dream.

COLD FEET.

COLD feet usually result from unequal circulation. People of active minds will be much relieved by wearing, at times, during their mental tasks, a linen or cotton skull-cap, frequently wrung out in cold water. The brain is cooled and the blood sent more naturally to the extremities. A brilliant New York minister was compelled to write his sermons with his feet in a hot bath. A prominent hydropathist advised the wet head-cap, which worked like a charm, and dispensed with the inconvenient tub of water.

The feet should be washed in tepid water every day or two; but do not put them into water so hot as to make them tender. In concluding the bath, dip them into quite cold water, which closes the pores naturally; and then wipe and rub them entirely dry and warm.

Wear broad, heavy-soled, capacious boots, with a loose insole. The foot appears smaller and more genteel in a boot quite large for it, than in one in which the compression compels the sides to overjut the sole and look tight over the instep or toes. Ladies should remember this fact, which is so well known to fashionable shoe-makers. A stylish dealer was daily complimented about his small feet and nicely-fitting boots; a compliment which his wife also shared among her lady friends. The secret was, they never pinched their feet. He wore No. 8, while his wife wore the unpopular size of fives. He could put on a six, or his wife a four, or perhaps a three. By wearing boots of the form of their feet of ample size, the boots remained in graceful shape. The gentleman's boots were nearly number nine in length; so made, to lend proportion and add comfort in walking.

Change your boots often. In use, they absorb moisture from within and without, and by frequent change and drying will be much warmer. If you haven't two pairs, remove the insoles and dry them thoroughly with the boots each night. The patent covered-cork insole is a nice thing for those who can afford them, if they do not sweat the feet. But the smooth, stiff-leather insole is the best for all people; and one good pair will wear out several pairs of boots.

If your feet sweat easily, and then chill from the dampness, wear light cotton stockings with your wool socks over them. Just try this expedient and see how nice and warm your feet feel. Ladies who ride will find a large pair of socks, over shoe and all, a great comfort.

When your feet are cold, stop and warm them. No business at the desk, the counter, the bench; no domestic task or social or conventional circumstance is of so grave importance as to warm one's feet when they are cold. You can't afford the hazard to health incurred by indifference to the discomfort nature is giving you as a premonition of danger. Many a little disease has crept in through the toes which found its way to organic abode in lungs or heart or brain, and there developed until it cast a death-bolt.

Keep your feet dry. Self-acting rubbers —on and off with a kick—are the grandest life-preservers of the age. But if, by accident, you wet your feet, don't be foolish, and sit till death-damp steals to your vitals; or, still more foolish, be frightened into a fever. Exercise common sense, and remove the wet stockings. If chilly, take a warm foot-bath, closing, as usual, with a "cold dip," and wipe and rub entirely dry; and feel and be the better for the accident. If, in a judicious way, people would wet their feet oftener—clear up to their ears—it would be better for their health.

As you prize your health, do not lie in bed with cold feet. If your blood is at a low ebb, or you are suffering nervous debility incident upon too serious mental stress, and, as a consequence, you experience, upon retiring, a flood-tide of all your life-currents to a cerebral center, with a throb, throb, throb, like the martial music of a man-of-war's man in your brain, while your feet seem like two young icebergs floating in an open polar sea, just arouse yourself and *command*, rather than calmly submit to the situation. Indeed, people of delicate constitutions who are not consciously plethoric and robust, better always take the precaution of defensive preparations as they launch upon the sea of dreams. Abundant bedding and flannel blankets are not enough. A hot brick or jug of hot water afford instant relief, and are not bad friends with which to court Morpheus until morning; unless the brick forms an alliance with the frigid zone, or you incur a deluge by loosing the cork, or an earthquake by kicking the jug out of bed. A modern rubber bag is the proper thing. The stopple screws in and imprisons the aqua caloric with perfect safety, and becomes a boon companion to the most fastidious or nervous. A cold-blooded bachelor will find it a grateful, faithful attendant. Forlorn maidens may trust it for unfailing consolation and certain protection. The invalid and aged may rely upon it as the cosiest, kindest of bed-fellows, while even brides and Benedicts may safely stick to their hot-water bag to meet the emergency of any possible coldness between them.

H. C. BASCOM.

HOT WATER FOR BRUISES.—The New York *Medical Journal* (allopathic) reports this case: "The patient was engaged in a machine-shop, and while his hand was upon the anvil of a trip hammer, the hammer—weighing seven hundred pounds—fell. It so happened that a file was on the anvil, and in this way the force of the hammer was arrested about half an inch before it reached its bed. When the hand was examined it was found that the whole palm was a mass of pulp. The metacarpal bones were comminuted extensively, and there was apparently but small chance of saving the hand. It was, however, placed in hot water, and kept there for two or three weeks, and then taken out and dressed. In three months the patient was sufficiently well to leave the hospital, and now—nine months after the

accident—he is able to move the fingers, and has quite a useful hand." Bruises and injuries do much better when treated with hot than with cold water. The temperature should be about one hundred and three degrees Fahrenheit. Another case is reported of compound fracture and dislocation of the ankle-joint, in which the proximal end of the first metatarsal bone protruded from the foot. The dislocation was reduced and the foot placed in hot water. At the end of a week it was taken out and dressed in the ordinary manner. The foot is now doing well, and promises a good result.

ZEB TO THE DOCTOR.

Ir's no use a comin' here, doctor, a feelin' my pulse and such,
Or givin' me more of yer medicin'—already I've taken too much;
And now I'm determined to stop it, my stomach I reckon needs rest;
At least I have got that idee, and fancy I'll give it the test.

It aint over pleasant, I tell ye, a watchin' yer body grow thin,
In spite of the doses of medicin' yer friends have kept pourin' in;
It aint no great joke for to lay here the whole of the summer and fall,
Yer eyes lookin' up at the ceilin' or countin' the spots on the wall.
I've patiently waited your comin' on purpose to tell ye my mind,
And ax you a few simple questions respectin' the rest o' mankind;
You know they are sorely afflicted with rheumatics, ague, and gout,
Which nat'rally 'counts for the doctor's so constantly running about.

The deacon's been here a few minutes; he ended his visit wi' prayer;
And said whom the Lord had afflicted he likewise had power to spare,
Then quoted a passage o' Scriptur', the words have slipped out o' my mind;
'Twas summat about sore affliction bein' useful to chasten mankind.
The parson once gave from his pulpit the very same words as his text,
He said that affliction in this world prepared us for life in the next.
I thought a great deal on the subject, it puzzled me more than enough
To think that the Lord God Almighty should treat a poor fellow so rough.

And since I've been layin' here, doctor, in solitude, silent and still,
I've thought a great deal of my Maker, an' tried to unravel His will;
But, think as I would, the same idee has ever stuck close to my brain,
That if He wills aught in the matter, He wills we should suffer no pain.

And if in the spring of my lifetime I'd studied His laws as I should,
I wouldn't be lyin' here, doctor, my keel away down i' the mud.
I once had a strong constitution, as tough as a fellow's could be;
But year after year I abused it, and this is the fruit d'you see.

I've taken a lot of yer medicin', the brethren have offered their prayers,
And yet I'm as far off as ever from bearin' my body down-stairs;
Don't think for a moment I blame you, I reckon you've done all you could,
But really, I don't believe, doctor, you've done me an atom o' good.

I'm longin' to feel the warm sunshine and drink in the fresh mornin' breeze,
Which makes all the maple leaves rustle while bendin' the boughs of the trees;
I want a good draught of fresh water, I've not had a drop for so long,
Exceptin' to wash down your medicin' which tasted so bitter and strong.

In fact I'm determined to have 'em—both sunshine, and water, and air,
For while I've been lyin' here, doctor, I've somehow gone short of my share;
But call in a month at the farthest, and then for yourself you can see,
If givin' up medicin' for sunshine aint provin' a blessing to me.

. . . . . .

Well doctor, I'm glad that you've come, I've been waitin' and watchin' all day,
An' thinkin' that maybe you'd call if you chanced to be passin' this way.
You say, "that you're right glad to see me a lookin' so smart and so spry."
I reckon you're kind o' surprised by the look that I see in your eye.

The fact o' the matter is, doctor, I've neither drank medicin' or stout;
And now by the aid of my stick I am able to potter about.
The book that old Snell came and read me has taught me there's little to fear
For those who determine through life from all mixtures and compounds to steer.
And as for the Lord sendin' sickness, I haven't yet puzzled it out,
For over my mind there is hangin' a monstrous shadow of doubt;
But one thing I've fixed on for sartin, and with me no doubt you'll agree,
That health is the best, taken care of, no matter how hardy you be? T. R. THOMPSON.

THE EVE OF A NEW DEPARTURE?

IN the February number of the Cincinnati *Medical News*, the leading organ of the old school of practice in the West, a discussion of certain views on the treatment of "Fever" was lately published. The writer, Dr. Kibbee, takes ground quite in harmony with the opinions held by the SCIENCE OF HEALTH department, and thus indicates the tendency of advanced thinkers professionally connected with the allopathic guild toward anti-drug methods of treatment. We give the greater part of the article:

When the vital force is stimulated, or goaded by inimical substances, such as those infusorial seed poisons, which, according to their inherent differences, develop, under the fermenting condition of excessive vital heat, into scarlatina, variola, or other specific organisms, which, in the language of Professor Tyndall, "prey upon the blood and tissues," the heart beats with greatly accelerated force and frequency, and the lungs respire rapidly, in order to more quickly carry the blood to the depurating organs, that the impurities and poisons may be speedily cast out of the system; and the heat that results from that exalted action is *above* the normal standard, and excessive, or abnormal. As the same vital force produces the normal amount of heat, and the excess of it, the difference being only in the rapidity of vital motion, we can not fail to see that all we are required to do, at least all that Nature *demands* we should do, is to *remove the excess of heat*, and leave the exalted vital action to cast out the offending cause as quickly as it can.

The moderating of this excessive heat is provided for in the bountiful supply of cool water wherever organic life can exist, which is indicated as the sure remedy for excessive heat in all sentient beings, by their intense desire for it when overheated from any cause.

We conclude, then, that the fever process, instead of being a unity, designed to "burn up the tissues" that have, in some mysterious way, been decomposed or changed by some inimical cause or power, is a duality, composed of exalted vital action and the consequent excessive heat. We conclude, too, that, as the waste matters, the worn-out tissues and unassimilable ingesta, are regularly cast out through the depurating organs in health, by the vital force under the excitation of congenial substances and conditions, so are the poisons, together with the débris of the system, cast out through the same avenues of purification; and their exit is hastened by the exalted vital action set up for that purpose, the same as a horse employs a greater amount of force to move a heavy load than is requisite to draw a light one. Is it not clear, then, that fever is *not* a unit, friend or enemy, to be dealt with *as such*, but a duality, composed of exalted vital action and excessive heat, the *exalted action* being nature's *first* as well as last supreme effort to save life, or remove offending causes; and the excessive heat, being the *result* of the exalted vital action, serving simply to indicate with unerring certainty its own remedy by producing an almost insatiable desire for cool water to drink and to bathe in. In this physiological light, is it not patent that the errors which we were *all* taught by our Medical School Masters, and embodied in our practice of the past, lay in the fact that there was no distinction made between exalted vital action, a friend to life, because the life principle *itself*, working under difficulties, and the excessive vital heat, a most deadly enemy, because producing *all* the morbific changes that ever

occur in a sentient organism while under the influence of fever, or exalted vital action and excessive vital heat.

Can Dr. McElroy, or can any one of us, adduce the slightest evidence that the presence of malarial or infectious seed poisons causes the least change in blood or tissue until after vital resistance is set up against it, and the temperature of the whole system, at least that of the great vital organs, is consequently raised above the normal standard?

In all traumatic diseases or vital disturbances, there is no change of any living tissue until after inflammation, or exalted vital action and excessive heat. How many instances could our army surgeons cite of healing by first intention of fearful wounds, where the heat of the part was kept at the normal standard by the persistent and thorough application of cool water. The virtues of cool water in the treatment of lesions occasioned by violence were found to be such that the water dressing is now in universal use in all the army hospitals of the civilized world; practically recognizing the fact that excessive heat produces all the morbid changes in fully vitalized tissue. It used to be thought by the teachers of surgery, that increased vital action and elevated heat were necessary for the healing of wounds; but it is now seen, by the use of cool water, that the nearer the part can be kept at the normal standard of heat, the quicker and better will the repairs be made.

As in local traumatic diseases, so in general infectious or malarious; the *excessive heat* is the condition which enables all seed poisons, whether vitalized or simply inimical, to develop or reproduce themselves in the impurities of the blood; those waste matters which, as every physiologist knows, do no harm while the temperature is normal, and which are being constantly cast out through the emunctories.

With these physiological facts before us, it needs but little more than to make the axiomatic statement that normal heat, and fever heat, are one and the same thing, differing only in degree, as they are produced by the same cause, the vital force. As already observed, when the conditions are all favorable to health, the heart beats regularly, and the lungs respire normally, and the vital heat which results from that normal vital action is normal, 98°. When the conditions are unfavorable, the vital force increases the action of the heart and lungs in order to remove through the depurating organs whatever it is that offends, and the heat which results from that exalted action is excessive, but provided for by the instinctive desire for cool water. It is well known that the exalted vital action necessary to the performance of a hard day's work, if the excess of heat that results from that exalted action be taken away as fast as it is evolved, as it is by the atmosphere in a cold winter day, no harm whatever results to the organism, except the drain on the original stock of vitality. The heart may beat and the lungs respire for hours with double their normal action, and the consequent excess of heat be developed with great rapidity, if it is removed by cool water, as in swimming, and the swimmer will scarcely feel tired from the unusual exertion. The plain reason is, that the functions of life are perfectly performed as long as the bodily heat remains at 98°.

Considering it proved that fever is a duality, exalted vital action and excessive vital heat, let us notice, for a moment, the *causes* of this disturbed vital action and excess of heat. Dr. McElroy refers to the multitude of names for fever, all based on the specific differences in the offending causes, which, owing to those differences, induce varied morbid phenomena, and reduces them all into two classes, those originating from external causes, and those from internal. It is really a matter of no consequence as to whence comes the cause of offense, whether from within or from without; the vital resistance is the same, and the heat is the same, differing only in degree; but it is of the highest importance that we do not confound the stimulating or goading *causes* of the fever, with the fever itself. The history of therapeutic medicine is little more than a record of the mistakes in practice, caused by oversight of the physiological fact that the exalted vital action is in the interest of life, or, in other words, is nature's method

of protecting herself against whatever is offensive to her, and of the fact that the excess of heat resulting from that exalted action, needs only to be removed with tepid or cool water, according to nature's instinctive demands, to secure absolute safety *in all cases if fever*, no matter whether the causes proceed from external or internal sources.

Therapeutics, as taught twenty-five or thirty years ago, led us to think the causes of vital disturbance were something to be destroyed or combatted with medicine; but somehow we forgot our lessons in physiology, for *they* instructed us that all curative power resides *in the system*, and is the vital force itself; and that its action, whether produced by normal means, as proper food, pure air, good water, etc.; or excited by abnormal stimulants, as scarlatina or variola poison; or lowered to scarce a perceptible throb, as in congestive chill, is always its *best effort* in the interest of the individualized structure. We can not fail, then, to see that every manifestation of vitality is occasioned by the vital force itself, and whether it is excited by health-producing substances, or stimulated by such as are inimical, nothing should be done to lessen its power, as is the case when we administer drugs with the view to destroying the poisons since they only prevent the vital force from manifesting the kind of disturbance which legitimately proceeds from the disturbing cause.

These disturbing causes have no power in themselves to cause symptoms; they only have their peculiar properties, varying from each other according to inherent differences; and the excessive vital heat, if not removed, according to the demands of nature, through the instinctive desire for water, brings out all the different morbid phenomena through its power as a fermenting condition; the seed poisons serving as a ferment, and the impurities in the blood as the sustaining medium or malt, the disturbed vital force being the fire, the stomach preparing the fuel, and the circulatory and respiratory apparatus being the engine. What is the condition of things in a fever that is especially dangerous to life? Nothing, as we have seen, but the fact that too much *heat* is evolved. The heat, then, is all we have to doctor. The self-regulating engine will take care of the rest. But how shall we bring the heat down to its proper degree? By lessening the fire? By meddling with the engine? That would not do, for the fire must burn hot, and the engine run rapidly, not to burn up the impurities and poisons, but to *expel* them through the depurating organs in the quickest time possible.

The question of temperature in fever is now receiving the investigating thought of representative medical men throughout Europe and America. Brand, Neftel, Jürgensen, Liebermiester, Ziemssen, Lindwurn, Bamberger, Winternitz, Gignoux, and others in Europe, have made astonishing cures of typhoid and other fevers of high temperature by the persistent use of cool water; and some of our own distinguished teachers and practitioners, Flint, Thomas, and others, have added their experience and testimony to the fact, that when the excessive heat of the fever patient is abstracted with cool water, as fast as it rises, the morbid changes incident to any and all high-graded fevers do not occur at all. These facts seem very like the fulfillment of the hope so ardently expressed by Professor Tyndall in his recent lecture, at Glasgow, Scotland, on "Fermentation and its Bearings on the Phenomena of Disease."

After discussing the subject of fermentation in a masterly manner, showing conclusively that all epidemic diseases are caused by vitalized parasitic germs taken into the blood by inhalation, he quotes Dr. William Budd, in his celebrated work on typhoid fever, in which he says he has often seen, in the day-laborer's narrow chamber, the father lying dead in the coffin, the mother in the sick bed, in muttering delirium, and nothing to relieve the desolation of the children but the devotion of some poor neighbor, who, in too many cases, paid the penalty of her kindness in becoming herself the victim of the same disorder, and proceeds to say, "From the vantage ground already won, I look forward with confident hope to the triumph of medical art over scenes of misery like that here described." Those who will consider the recent experiences

with water as an antipyretic, in connection with the physiological facts here set in order, can not fail, it seems to me, to see that Professor Tyndall's hope in medical triumph over the death scenes he describes, and with which we are all too familiar, is already accomplished in the discovery, that keeping the blood cool to the normal standard of heat is an infallible cure for fever of every name. So that if Professor Tyndall and his co-scientists have found the remote *causes* of infectious fevers to be parasitic living organisms, their medical brethren have found the *remedy* to be cool water, so applied as to keep the bodily heat at the normal standard, a point plainly inimical to parasitic development and reproduction.

From this arrangement of well known physiological facts, we conclude—

1st. That the vital force, or life principle, is the prime cause of all motion in the human organism, from the first cell formation until the last throb of the heart.

2d. That heat at about 98° is the first condition of life in the human body.

3d. That health is undisturbed vital action.

4th. That disease is disturbed vital action.

5th. That the causes of health are the presence and influence of those substances and conditions which are congenial.

6th. That the causes of disease or disturbed vital action are those substances and conditions that are inimical or unfavorable to the normal manifestations of vitality in the organism.

7th. That the presence or influence of hygienic substances and conditions excites the heart to beat and the lungs to respire with normal force and frequency; and that the vital heat, resulting from that normal vital action, is 98°, and normal.

8th. That the presence or influence of any substance or condition that is inimical to life, stimulates the heart to beat and the lungs to respire with increased force and frequency; and that the exalted action is for the purpose of expelling the inimical substance, together with the refuse of the system, through the depurating organs.

9th. That exalted vital action, which hastens the motion of the blood through the circulatory and respiratory systems, by augmented friction and increased oxygenation of the blood, raises the heat above that degree which is congenial to health, provided it is not removed by cool water or by cold air as fast as it is evolved.

10th. That when the excess of heat above 98° is removed as fast as it rises, no more injury results to the organism from that exaltation of the vital action which is stimulated by yellow fever or scarlatina poison, than from that caused by the mental excitement which produces excessive beating of the heart and respiration of the lungs, while skating rapidly in the cold air of winter, or while swimming in cool water with competitors for a prize.

11th. That exalted vital action causes excessive heat, and the two together constitute *fever*.

12th. That exalted vital action, even if the resultant excess of heat be removed as fast as it rises, will exhaust the available stock of vitality, and death of the organism be the result, if a man use it all up in his muscles, or otherwise through mental control; or if it be exhausted in resistance to something deadly inimical, under the self-preserving instinct of organic life.

13th. That every abnormal change of fluid or solid, in the composition of the human organism, that occurs under vital control, as in all fevers, is under the influence of *excessive heat* as a fermenting condition; and without that condition of excessive heat, there is *no* abnormal change in blood or tissue, whether the organism is working rapidly to supply vital force to the muscles, or to expel inimical substances.

14th. That none of the causes of exalted vital action and excessive heat, or fever, which are taken into the blood through the lungs, the seed poisons in all infectious and malarial fevers, have virulence enough in them to produce death of the organism by exhausting the vital force in its resistance to them, *if the excessive heat that is evolved by that resistance be removed with cool water as fast as it rises.*

IT is no great matter to associate with the good and gentle; for this is naturally pleasing to all, and everyone willingly en-

joyeth peace and loveth those best that agree with him. But to be able to live peaceably with hard and perverse persons or with the disorderly, or such as go contrary to us, is a great grace and a most commendable and manly thing.

THE SCIENCE OF HEALTH.

VIEWED from whatever standpoint, the laws of health are of the utmost importance. If one's self is worth more than the whole world, then to preserve one's self is the first duty and the highest privilege. Gain all else—could it be done—and yet lose health, and all is lost. While nothing can compensate for such a loss, nothing can, indeed, be held in any enjoyable sense under it. The more we have beyond our ability to enjoy it, the more does it become the source of pain rather than of pleasure. The rich man torn from all his treasures has to endure regret more insufferable than the poor. This may in part, if not in whole, account for the torments of Dives of Gospel fame. The misuse, not to say abuse, of his opportunities and possessions now lost forever, formed the bitterest ingredient in his cup of woe. Hence his efforts, too late for relief, and to admonish others to avoid his folly.

The same principle obtains in the grave matter of health, and the same solemn example should be heeded. As Solomon says, "Buy the truth, and sell it not," so may we say of health. Ignore, as multitudes do, right living, and what is left worth living for? Disease, pains, gloom, low spirits, forebodings, and as the apostle expresses it, "a fearful looking for of fiery indignation," gradually and constantly sink the sufferer into a premature grave. Better, far better for such an one that he had never been born.

Thus, to live on the "ragged edge of despair" is even more than useless. There is no decree, no fate in the sad case. It is brought upon ourselves by *hard work*. But for the plea of ignorance—little short of the modern desperate defense of insanity—the health-destruction were of all other kinds the most inexcusable. Well did Moses of old promulgate his law against the sin of ignorance. It is the filthy fountain of all crime and all misery. Rejecting or neglecting the light, we perish in darkness. No declaration in the great Book can be of more import than that God saw the light to be good. Literally, mentally, and spiritually, for soul and for body, for time and for eternity, light is good—exceedingly good. The converse is true as to darkness. One that does not learn — that will not learn, is worse than hopeless. Like the sneaking thief, he prefers darkness because his deeds are evil.

Then the science of health and its practical advocates are doing a great and good work. Indeed, its success is the hope—the only hope of our world. Let it go on in the even tenor of its way, and we are saved; let it be hindered, or still worse, be stopped and we are lost. One grand fact should cheer us: "Truth is mighty and will prevail;" which, with the other maxim, "Labor conquers all things," insure success.

W. PERKINS, M.D.

A REAL VEGETARIAN.

SEVERAL of our exchanges have published the following paragraph, as if it set forth a very remarkable phenomenon in human nature:

"One-half mile south of Holmesdorf, Pa., lives an old farmer, by the name of Abraham Blatt, who is about sixty years of age, is healthy, robust, and as strong as a horse, who has never in his lifetime tasted the least bit of meat of any kind. He says he never tasted beef, pork, mutton, or veal, no kind of poultry, no kind of fish, no kind of game, in fact, nothing pertaining to meat. He has such an abhorrence of meat that when they kill a cow or hog on his premises, he generally leaves home and goes about other

business. He is the father of a large family, all healthy children. Among the lot is also one boy, who, like his father, eats no meat of any kind. In reply to the questions put to the father, how he could work so hard without eating any meat, he says he believes he is much healthier than if he ate meat. He uses very little butter."

We see nothing more wonderful in Mr. Blatt's disposition than a near approach to a natural life, so far as diet is concerned, and his robust health is the simple result of it. There are thousands of people who are just as much entitled to the notice of the press as Mr. Blatt. Among them are the Shakers, whose organ thus comments on the paragraph we have quoted:

"The popular error that flesh meat creates more muscular strength than do grains, fruit or vegetables, was equaled by the once popular belief that to the farmers and hard-working laborers alcoholic drink was a positive necessity.

"We are apt to forget to reflect. The horse after his kind; the ox and buffalo, the camel and dromedary, the elephant and mastodon, were and are graminivorous. Do they lack muscle, as compared with the carnivora? Is the fact that no animal living habitually upon other animals will ever work, presumptive evidence that man, who performs so much physical labor, does not belong to the carnivora, and that he will progress beyond it?"

ASPARAGUS, SPINACH, AND OTHER GREENS.

Asparagus, Healthful, History, Culture, Use—Spinach—Dandelions—Milkweed—Poke—Hoosung—Cardoons.

Recipes.—Asparagus Dressing, Stewing, Pease, Toast, Stew—Spinach—Dandelions—Mustard—Dressing for Greens—Milkweed.

THE long winter of our discontent is at last passing away. The warm shining of the sun has again called out the leaves of various kinds, which come as the heralds of flower and fruit, each in its time. We who have been so long confined to dry forage are fain to follow the example of the lower orders of animals and find out what of green the field or garden may produce for us. In this, however, we speak not for ourselves so much as for others. We who have such grand varieties of fruits, fresh, canned, and dried, and of seeds and grains prepared by the skill of the miller in many forms, besides the roots, which with careful preservation in cellar or garden still yield their freshness, we have no cause to complain. Moreover, we have no penalties to pay for overeating or for stimulation of any unwholesome kind. Through our gladsome, workful, vigorous winter we have retained an appetite so normal, and a taste so keen, that we enjoy our juicy fruits and rich grains and wholesome vegetables with a zest that does not feel the need of additional forage of any kind. Having also lived in pure air, with abundant exercise, we have felt no symptoms of the

SPRING SICKNESS

of which so many complain. We have no idea that our blood wants any special cleansing with "roots and herbs." We have good lungs to do that work for us with every breath, and a good liver to do its part after every meal, and if we had not we should not send down any soap-suds and scrubbing-brush, in the shape of syrups and blood-purifiers. By the way, I am constantly, of late, running across some very cheering proofs that the ideas of the public on such topics are improving rapidly. Only a few days since I heard an old-school physician tell a public audience, that after a poison had got into the blood, there was no such thing as putting a medicine into the blood to counteract its effects. It must work itself out in some way, and it was our business to aid the system in this operation and patiently wait the result. If all our old-school doctors would only lay on in that style, it would not take long to puff out of sight the old-time barbarism of taking medicines in the spring to "physic the blood."

And when the people come to understand and practice the theory of right living, we will see them, like all the rest of nature, beaming with gladness to greet the spring,

instead of feeling wilted and "all gone" when its balmy breath fans their faces. We love the spring so well that we can calmly wait her coming, without being obliged to wish that she would hasten along with something for us to eat, or feeling obliged to bolster ourselves up with pickles and raw onions until she produces her dainties. Nevertheless, we like the dainties she has been hiding for us in her bosom through all the long winter, and we shall take them thankfully and make the most of them. We shall doubtless find many to agree with us when we hand up our plate for some

ASPARAGUS,

as our first choice. And what is asparagus? Leaves, just leaves, and in the bud at that. Nevertheless they are full of the life and vigor of spring and contain the vitality of a large development. There is a great difference in plants in this respect. It would be easy to say that the tiny oaklet holds in itself a larger promise than the asparagus bud, and in one sense it would be true; but we would be obliged to wait longer for its development. It must make roots as well as tops; while the asparagus has the roots of several years' growth already to work for it, and push forward a rapid development. Hence, when the large buds find their way to the surface they are full of nutrition, and, moreover, being in a succulent and eatable condition, they make a very good and nutritious dish, compared with many other greens. We doubt about their being so valuable as the grains, as we do not consider them anything like so nutritious. They rather more resemble the majority of fruits in the amount of nutrition, as well as in their acids and fresh juices.

One of our best authorities says that "it is one of the most productive, economical, and

HEALTHFUL

of all garden vegetables." We ourselves should feel a little disposed to make some small exceptions to this. It is well known to contain a substance called "asparagine," which leaves the system by way of the kidneys, without digestion, emitting a very strong and unmistakable odor. It may not be very hurtful; we are not sure that it is; but it has one peculiarity in common with all hurtful things, it can not be used by the system, but requires a special exertion of vital force for its removal. Any substance that is perfectly digested does not emit any odor by which it can be recognized. This is a proposition worth remembering, and to which we will again refer when we examine the odoriferous onion, as we propose to do soon.

EARLY HISTORY.

The asparagus is not a vegetable of "recent invention" by any means. Indeed, if we may believe the ancients, they carried its perfection to a far greater extent than we are now able to do. Athenæus tells us of some travelers who saw in Libya asparagus twelve feet high, and again some on the mountains which was thirty feet in height. They do not specify whether this was the growth of the mature plant or of the buds when cut for table use, and in fact we do not think it makes much difference. We doubt if such reports would stir up our cultivators to emulation. It is perhaps a little more to the point to say that the Romans, who took great pains with its cultivation, seriously report sprouts of three pounds weight when cut for table use. This is about six times as large as the largest that we are able to raise now. Grayson's Giant has been made to weigh forty-three pounds to the hundred sprouts, and this is the largest that has ever been raised in England. The Romans cooked it very much as we do, and it was a favorite phrase with Augustus, when giving orders, "Let that be done quicker than you would cook asparagus." The Roman cooks also dried and kept it for use when out of season. They ascribe its origin to Asia, but it is either a native of the sea coasts of France and England or has become so well naturalized there that it is generally considered a native of those countries. It is a marine plant, and salt is a favorite fertilizer.

CULTURE.

Asparagus is a plant of slow growth and of long life. It is usually raised from the seed, and until that mode of propagation is changed, much improvement in the varieties need not be expected. The plants are

raised in a seed-bed, and when they are in their second year, they are placed in a bed which has been made mellow and highly enriched to a great depth, adding two quarts of salt to the square rod, and the roots are placed in rows and covered with five inches of soil. In the fall the tops are to be cut and burned, and an inch or two more of soil and manure added. Every fall it should have a top-dressing of manure and salt. The second season the bed is to be treated in very much the same manner, keeping it free from weeds, cutting and burning the tops, and adding another dressing of manure. The next year it can be cut for table use. It is true this is sometimes done the previous year, but it impairs the vigor of the plants; so does too frequent or too long cutting. From the 10th to the 15th of June in the Middle States, and from the 15th to the 25th in the Eastern States and Canada is as late as it is allowable to cut it. Some portion should be exempted from cutting even earlier than this, so that it can make large buds for early spring use the subsequent year.

This is a matter which ladies who are in the habit of going into their own gardens should study carefully. Some who have not done so, and I fear their number is not small, have the impression that after a plant has done blossoming its leaves may as well be cut away as not. I have seen peonias and dicentras thus cut away, and asparagus even before it had blossomed, and many other plants which had passed their season of use, whatever that might be. They did not seem to understand that the leaves were the lungs of the plants, and through them only could the plant make roots and get a stock of vitality for its next year's growth. Some things, like Holland bulbs, get this sooner than others, but they grow and make roots in the winter, while other plants rest, and we can not make other plants follow them in this respect. We need to study the laws of plant-growth in general, and then learn the exceptions and treat them accordingly. And now the approach of another spring affords a favorable season for doing this, and we hope that misses who have school opportunities of doing so, and ladies who can pursue a course of study by themselves, will take up botany, not because it is "the thing to do," but from real love of its subjects and a desire to learn all they can about them. They will find it more fascinating than society, more useful than fancy needle-work, and more healthful than dancing.

The green part of asparagus is the only part that is eatable. The buds should be close and firm, and it should be used as soon as possible after it is cut. Reject it utterly if it has begun to decay or wilt. Marketmen have a fashion of keeping it a day or two in some damp place, but it degenerates in quality almost as rapidly as green pease or corn.

SPINACH.

Spinach is said to be of Asiatic origin. This is one of the first vegetables to spring up to notice in our gardens, though indeed, if it be rightly managed, and the winter not too severe, it can be had at any season. It is not uncommon now to see it in the city markets throughout the winter. It is a harmless plant, good for variety; its greatest fault being that it has hardly sufficient taste to stand on its own merits, and is continually appealing to the castor to help it along. The hygienist has so many better things in his list that he very often and very sensibly discards this entirely. Where it is used it can be much improved by cooking it with some such thing as French sorrel, or orach, which is a semi-acid variety of spinach. These are all of them easily cultivated. Spinach, when grown at all, should have the advantage of rich soil, to give tenderness and succulence to the leaves. The seeds should be sown in drills; and if a succession is wanted, a few more seeds should be sown every two weeks from April to August. The kind cultivated for winter use is a different variety from that best adapted to summer use. It may be sown in the latter part of August, thinned to five inches apart, and, if the weather is favorable, it ought to be in good condition to cover up by the time the ground freezes; then, if a strip of timber be laid between the rows, and clean straw covered over the whole, it can be gathered at any time when the weather will

permit. The usual method of gathering is to cut off the roots just below the leaves, which saves much trouble in washing it, as well as time in looking it over.

DANDELIONS

are not a little used in the country, where they spring up spontaneously, and if this be in cultivated places, they do very well; but the tough diminutive bits that grow in the grass are hardly worth the labor of gathering. It is not a bad idea, if people really wish to eat such things, to bestow a little care on their culture, either by devoting space to them, as to any other vegetable (which developes large plants), or by giving some culture to those stray seedlings that make their appearance in the fertile parts of the garden from which the regular crops have already been removed. Such treatment of them in the fall will greatly improve them and produce finer as well as earlier development in the spring. For many families this would produce all the dandelions for which they would care. In gathering them there is a great saving of time in cutting the root below the leaves. They have of late become a market vegetable. Many people reconcile themselves to the bitterness, which is almost unendurable without some dressing, by thinking it is good for the blood. We can hardly account in any other way for the common increasing use of dandelions. Its botanical name is derived from a Greek word, signifying to disturb or disorder, alluding to its internal effects.

MILKWEED.

This is so named from its milky juice. The shoots make their appearance in May or June, and are sometimes recommended as a passable substitute for asparagus. I do not know how they are a substitute; I do not see much resemblance, either in appearance or taste. If it be meant that they are to be eaten in the place of spinach or asparagus, because you can no longer get the latter article, as much might be said with reference to many other things. I dislike the idea of substitutes in cookery. I do not see why one thing has not just as good a right to stand on its own merits as any other thing. If it is good in itself, use it. If it be called after any other thing, it is cheated out of its dues, and the eater, of course, feels cheated. He is professedly eating it because it tastes like some other thing, which, of course, he prefers. The kind of milkweed used is the *Asclepias Cornuti*, a very common plant in the Middle and many other States. It blossoms in July, has large ovate downy leaves, and an almost globular cluster of pale pinkish flowers, of a rather disagreeable sweet odor. It should be gathered when from five to eight inches high, though when still larger the stems may be used if the larger leaves are stripped off. It does not require so much time in its preparation as many other sorts of "greens." If the young shoots that come up in good tilled soil can be left until they are large enough to use, a few messes of greens can be secured from them at a very small expense.

POKE

is another of the plants which has the honor to be recommended as a substitute for asparagus. The young shoots and stems may be cooked, while yet tender, in the same manner as asparagus. The plant is not an uncommon one in many parts of the country. Somewhere I have seen directions for its cultivation; but as it grows very thriftily, and of its own accord appropriates rich soil, there is little need for its cultivation; and if there are localities where it is not to be found, it is still rather doubtful whether it would pay for cultivation, as it is a plant of a very large growth, and by no means so aristocratic in its appearance as asparagus, nor would its foliage answer anything like so well for decorative purposes. Still, it is worth while to know what plants are capable of being pressed into service in case of emergency.

HOOSUNG is not to be found as a wild weed in this country. It is an importation from the country of the Celestials. It is cultivated after the same fashion as lettuce, and is fit for use early in June. The inside of the thick succulent stem is boiled and dressed with white sauce, or it may be cut into dice and made an ingredient in soups.

CARDOONS are also used in soup, as well as cooked by themselves. They have a great abundance of albumen, which thickens

the soup, or serves as a dressing to them when cooked by themselves. They are grown and blanched in a similar manner to celery. Cultivated in the gardens of the nobility of the Old World, and talked about in most of their cook-books as one of the delicate dishes, I suppose they would disdain, or rather the gardeners would disdain for them, the plebeian associations in which we have placed them here; but even "the king himself is served by the field."

RECIPES.

DRESSING ASPARAGUS.—Cut off as much of the white end of the sprouts as is necessary to enable them to be conveniently handled; wash lightly. The English carefully scrape each separate stem, but what is to be gained by it they do not say.

STEWING ASPARAGUS.—Tie the dressed asparagus in bundles of half a dozen sprouts each, and drop them into boiling water sufficient to cover them; boil gently for eighteen or twenty minutes, or until the green portion is quite tender—though it should not fall to pieces when handled. Cut and remove the strings and carefully place them lengthwise on a warm platter, and tilt it slightly for a few minutes to drain. Serve by placing a few on each plate, and eat the green and soft portions. It is considered quite the thing to take the sprout in the fingers by its hard, white portion and lift it to the mouth to be eaten and to have its juice extracted. This has a fresh, pleasant taste, and though we can not recommend the practice on account of its delicacy of appearance, yet if any one wishes to take advantage of it to get a pleasant mouthful, society manners will allow him to do so.

ASPARAGUS PEASE.—Cut off the green portions of the sprouts, or as much of them as are tender, and cook them in as little water as will answer; then skim them out and cover them with a sauce made of milk, thickened with a little sifted Graham flour, or with oatmeal milk, made by boiling coarse oatmeal gently a long time in six parts water, and straining it carefully through a fine wire sieve.

ASPARAGUS TOAST.—Split some fresh and tender gems, toast them slightly, dip them quickly into the water in which the asparagus has been boiled, lay them on a hot platter, and dish the asparagus upon them. Or take stale gems, split and simmer gently in milk until quite soft, lay them on the platter and dish the asparagus upon them. The asparagus for this purpose may be prepared in any of the ways above mentioned.

ASPARAGUS STEW.—About one part asparagus, cut into short pieces, may be added to two parts pared potatoes, a few minutes after the latter begin to boil; let them stew gently with but a little water, which should do nearly out, and just before they are done add oatmeal milk barely sufficient to cover them; cook all together for five minutes, being careful not to stir it into a mush. Asparagus may also be stewed with beans, and with beans and potatoes, being careful to give each only the cooking which it requires.

SPINACH.—Wash spinach carefully in an abundance of water; pick off all decayed leaves, and rinse; put into a pot with no water except what clings to it from the rinsing; cover close and cook gently till tender, which will require from twenty to thirty minutes, according to its succulence; then take up into a colander, place it over the pot to drain, covering it to keep it warm. If you have a perforated mould, it is very convenient to press it into that, and when drained turn it out upon a platter to serve, being careful to keep it warm.

DANDELIONS, MUSTARD, ETC.—Pick over, wash, and rinse thoroughly; put into an abundance of boiling water and boil rapidly until they are done, which you may know by mashing them between the fingers. Take up, drain, and serve the same as spinach.

DRESSING FOR GREENS.—If convenient, cook sorrel with the greens, enough to give them an agreeable tartness; or if rhubarb is abundant, that may be used, cooked and drained with them Otherwise, cook a small proportion of rhubarb in a saucepan, and when the greens are drained put them in and heat, stirring them thoroughly; drain again and serve warm. If lemon juice is used, it is much better to cook it in after the same fashion. A little sprinkling of sugar will remove the harshness of either of these sours. Tart apple-sauce may be used in a similar manner, or served with them. The hard-boiled eggs, with which they are so often decorated, are better to look at than to eat; but the mustard dressing is neither handsome, toothsome, nor wholesome.

MILKWEED.—Cut the stems when about five or six inches high, trimming off such leaves as appear to be tough; boil them in a medium quantity of water, take up and drain, very much the same as asparagus. The time required will be twenty minutes, if they are very tender. The succulent stems are the most delicate part, and may be cut in bits and stewed like asparagus pease. Poke shoots may be cooked in a similar manner.

JULIA COLMAN.

"SIFTED PEASE."—This a variety of canned pea, which brings a very high price. It is prepared by sifting the first picking of green pease for the season, and sifting out the youngest and

most delicate, which are then duly canned. It is really a very nice article, but, of course, a very scarce one, and one also which is very largely counterfeited. Almost any one that raises good "Champions," can have an article equally good by selecting half-grown pease and cooking them about two hours, or until they are nearly ready to fall to pieces. All green pease would be greatly improved by cooking much longer than is the common custom. An hour and a half or two hours will make an otherwise ordinary pea delicious, and if it is in its prime, and cooked as soon as gathered and shelled, it is far more desirable than asparagus.

Dr. Heald, of Wilmington, Del., has selected "McLean's Little Gem" and "Laxton's Alpha" as the two best early peas in his latitude. We commend his selections. For a later pea the "Champion" has no rival yet, so far as we are aware. For the latest, we commend the "Blue Imperial" to a trial. Green pease should be planted in succession, to last until the advent of sweet-corn, if the weather favors their growth, and then a few more late in the fall.

RECORD OF SCIENTIFIC DISCOVERY.

The Depths of the Sea.—According to the late explorations of the English, German, and United States Governments, it has been proved that the average ocean depths in the southern hemisphere are less than those of the northern hemisphere. The greater range of water surface in the southern hemisphere is, therefore, in a measure, compensated for by its shallowness. It has been a question how, considering the great apparent preponderance of land in the northern hemisphere, the center of gravity of the earth could coincide with its actual center, if such be the fact. These contours of the ocean-bed point to a possible solution. The greatest recorded depth in the southern ocean is 17,000 feet, while in the northern oceans 27,000 and 23,500 were found respectively in the Pacific and Atlantic. A published report of Captain Evans' remarks before the British Association, says:

"The general surface of the sea-bed presents in general to the eye, when graphically rendered on charts by contour lines of equal soundings, extensive plateaux varied with the gentlest of undulations. There is one great feature common to all oceans, and which may have some significance in the consideration of ocean circulation, and as affecting the genesis and translation of the great tidal wave and other tidal phenomena, of which we know so little—namely, that the fringe of the seaboard of the great continents and islands, from the depth of a few hundred feet below the sea-level, is, as a rule, abruptly precipitous to depths of 10,000 and 12,000 feet. This grand escarpment is typically illustrated at the entrance of the British Channel, where the distance between a depth of 600 feet and 12,000 feet is in places only ten miles."

Science Among the Ancients.—The form, dimensions, structure, and uses of the great pyramid of Egypt have long engaged the attention of astronomers and other scientific men. It is generally known that this pyramid has been carefully explored and measured by successive Egyptologists, and that the dimensions have lately become capable of more accurate determination, owing to the discovery of some of the original casing-stones and the clearing away of the earth from the corners of the foundation, showing the sockets in which the corner-stones fitted. Professor Piazzi Smith devoted many months of work, with the best instruments, in order to fix the dimensions and angles of all accessible parts of the structure. And he has carefully determined these by a comparison of his own with all previous measures, the best of which agree quite closely with each other. The results arrived at are: 1. That the pyramid is truly square, the sides being equal and the angles right angles. 2. That the four sockets on which the first four stones of the corners rested are truly on the same level. 3. That the directions of the sides are accurately to the four cardinal points. 4. That the vertical height of the pyramid bears the same proportion to its circumference at the base as the radius of a circle does to its circumference. Now all these measures, angles, and levels are accurate, not as an ordinary surveyor or builder could make them, but to such a degree as requires the very best modern instruments and all the refinements of geodetical science to discover any error at all. In addition to this we have the wonderful perfection of workmanship in the interior of the pyramid, the passages and chambers being lined with huge blocks of stones fitted with the utmost accuracy, while every part of the building exhibits the highest structural talent. In all these respects this largest pyramid surpasses every other in Egypt. Yet it is universally admitted to be the oldest, and also the oldest historical building in the world.

Sun-Spots, Their Effect on Climate.—The question of the effect of sun-spots on climate has been often discussed, and so many considerations are involved in it that our present imperfect evidence can not be taken as at all final. In a paper published in the *Monthly Notices* of the London Astronomical Society, Prof. Langley, of Alleghany Observatory, Penn., presents some conclusions drawn from a series of observations of his own. He claims that the sun-spots do exercise a direct influence on terrestrial climates by decreasing the mean tem-

perature of our planet. This decrease is, however, so minute, that it is doubtful whether the influence can be deemed more than a transitory impression. The whole effect indeed is represented by a change in the mean temperature of our globe in eleven years not exceeding three-tenths of a degree.

Asteroid Discoveries in 1876.—The number of new planets discovered during 1876 was 12. We give the following list as published in the *Athenæum*:

No.	Name.	Discoverer.	Date of Discovery.
158	Koronis.	Knorre.	Jan. 4th, 1876.
159	Emilia.	Paul Henry.	Jan. 26th, "
160	Una.	Peters.	Feb. 20th, "
161	Athor.	Watson.	April 16th, "
162		Prosper Henry	April 21st, "
163	Erigone.	Perrotin.	April 26th, "
164	Eva.	Paul Henry.	July 12th, "
165	Loreley.	Peters.	Aug. 10th, "
166	Rhodope.	Peters.	Aug. 17th, "
167	Urda.	Peters.	Aug. 28th, "
168	Sibylla.	Watson.	Sept. 27th, "
169	Zelia.	Prosper Henry	Sept. 28th, "

No. 162 still remains nameless. Of the discoverers, Knorre resides at Berlin, Perrotin at Toulouse, and the Henry brothers at Paris. Peters and Watson have well maintained the honor of the country in this line of discovery during the year, and America still leads the world in the number of planets she has given to science.

In this connection it may be added that M. Leverrier has at length completed his laborious study of all members of the solar system. His chief object was to decide the question whether there is an ultra-Neptunian planet, which might be detected, as Neptune was, by the perturbations produced by it on planets already known. The conclusion is negative; there is nothing indicating the existence of a body outside of Neptune.

Origin of the Zodiacal Light.—This vexed astronomical question has been recently reopened by one of our American physicists, who contends that the cone of illumination, visible in the advance and recession of the sun, is caused by a section of the earth's atmosphere acting as a tremendous plano-convex lens condensing the solar rays in the form of a pyramid. This cone, as is well known, appears in this latitude most frequently in the spring and fall, when the atmosphere is extremely clear, and may be seen from eight to nine o'clock in the evening, and from three to five in the morning. That it is a phenomenon of solar action, is evident from the fact that its axis is always nearly parallel with a line drawn from the sun's center, in the same manner as the axis of the cone of light produced by a condenser, such as is used for microscope work, is nearly parallel with a line drawn from the light to the point or object illuminated. Its breadth at the base is usually about that of the tropical belt of the earth's atmosphere, and its apparent height is exactly such as would be anticipated under our theorist's view of the case. Of course, the surface of the earth reflects a vast amount of light at all hours in the day, and luminous results of this reflection may be rendered experimentally visible very readily, by observing it against a dark background, which, in the instance of the zodiacal light, is supplied by the shadow of the earth. The reader who is curious to calculate this problem more closely, may remember that the earth's diameter is to the sun's diameter about as 1 to 110, and the sun's diameter to the distance between the two bodies as 1 to 110—an odd coincidence in the figures merely. The length of the shadow cast by the earth at midnight can thus be easily ascertained, since it is simply the axis of an isosceles triangle the base and angles of which are known. The zodiacal cones of light, one in the east, the other in the west, occupy the base of the conical shadow cast into space by our globe. The reader will readily see how this happens. The earth's atmosphere being about forty miles deep, an oblique section of it, in the form of a huge plano-convex lens, is the seat of all those gorgeous light and color effects that come on just after sunset and just previous to the sun's rising. In addition to prismatic or color effects, due to clouds and to varying densities, the whole atmospheric section transmitting the sun's rays obliquely has, according to our author, an action exactly similar to that illustrated by holding a convex lens near a dark screen, with the axis of the lens presented obliquely to the light. The theory is an ingenious one, and fully accounts for the phenomenon; but on account of a single yet unascertained point, opinion must be for the present suspended. It has been stated, not demonstrated, by spectroscopists, that the zodiacal light is not reflected sun light; and if this statement is verifiable, such an explanation as that just offered is, of course, inadmissible. The proposed new view is, however, so simple and so thoroughly in accord with the ascertained laws of optics, besides offering such a complete exposition of all the phenomena involved in the problem, that one would almost regret to find the statement of the single spectroscopist, who has ever tested the question, verified by subsequent investigation.

A Cheap and Excellent Disinfectant.—Dissolve half a drachm of nitrate of lead in a pint of boiling water; then dissolve two drachms of common salt in a bucket of water; when both are dissolved, pour the two mixtures together, and when the sediment has settled you have a pail full of clear fluid, which is a saturated solution of the chloride of lead. A cloth saturated with the liquid, and hung up in a room, will at once sweeten a fetid atmosphere. Poured down a sink, water-closet, or drain, or on any decaying mass, it will produce the same result. The nitrate of lead is very cheap, and a pound of it would make several barrels of the disinfectant. The salt which furnishes the chlorine would not cost more than the water.

AGRICULTURAL HINTS.

[The mind is the man. Farming, in the highest sense, is not simply doing the hard work necessary. This can be done by muscle when directed by brains. The true farmer is he who can plan, direct, and control skillfully.]

As this department is one which should contain the most recent gleanings of wisdom and experience, our readers and friends in the rural districts are invited to send us any items of value to agriculturists in general, and which should have a wide circulation. Due credit will, in every case, be given to the contributor.

Keeping Potatoes.—In the last number of your valuable journal I read an account of the potato. The author appears to know of no experiments that would warrant an extensive following for keeping potatoes so that they should not experience the vicissitudes of temperature, but thought the subject was well worthy of experiment. While at a coal-mine in our vicinity last fall, I was asked by a miner to go in the mine and look at some potatoes which had been stored away in the mine more than a year before. I did so, and found that the potatoes, of which there was a small quantity, two or three bushels, were perfectly sound and without any signs of decay. I was also told that those potatoes would not grow, as had been tested by planting in the spring. I think the failure of growth was owing to the dampness of the potatoes, as no care had been taken to keep them dry. Whether this is sufficient proof that they might be made to keep by a similar treatment, I am not able to decide, but this could be easily tested, without much expense, in regions where mines are numerous, as in Southern Ohio and Pennsylvania.

W J. LEWIS.

Social Advantages for the Farmer.—An article in *Scribner's Monthly* by an experienced agricultural writer, urges the formation of farm villages—the location of farmers' residences in convenient proximity for the sake of the advantages which are derived from close social relations between different families The writer urges his proposition strongly, thus:

"If American agriculture has an unsatisfied need, it is surely the need for more intelligence and more enterprising interest on the part of its working men and women. From one end of the land to the other, its crying defect—recognized by all—is that its best blood—or, in other words, its best brain and its best energy—is leaving it to seek other fields of labor. The influences which lead these best of the farmers' sons to other occupations is not so much the desire to make more money, or to find a less laborious occupation, as it is the desire to lead a more satisfactory life—a life where that part of us has been developed by the better education and better civilization for which in this century we have worked so hard and so well, may find responsive companionship and encouraging intercourse with others. . . . .

"The social benefits and the facilities for frequent, neighborly, and informal intercourse are obvious. To say nothing of the companionships and intimacies among the young people, their fathers and mothers would be kept from growing old and glum by the constant friction of their kind; and in so far as a more satisfactory social relation with one's fellowmen gives cheerfulness and the richness of a wider human interest, in that proportion would the village life have a wholesome, mellowing effect that is not to be found in the remote farm-house, nor even in the sort of neighborhood we sometimes find in the country, where several farm-houses are within a quarter of a mile of each other. The habit of 'running in' for a moment's chat with a neighbor is a good one, and it gets but scant development among American farmers."

The better development of the church, and especially of the school, is discussed at some length, and the paper closes thus:

"One might go on through the long range of incidental arguments—such as lighted streets, well-kept side-walks, winter snow-plows, and good drainage, and a wholesome pride in a tidy, cozy village, until even the most close-fisted of all our class would confess that the extra cost would bring full value in return, and until he would recognize the fact that the attractions of such a home as the village would make possible would be likely to insure his being succeeded in his wholesome trade by the brightest and best of his sons—a result that would surely be worth more than all it would cost.

"But my purpose has been only to suggest a scheme which seems to me entirely, even though remotely, practicable, and in which I hope for the sympathy and help of the country-bound farmers' wives and daughters—a scheme which promises what seems the easiest, if not the only, relief for the dullness and desolation of living which make American farming loathsome to so many who ought to glory in its pursuit, but who now are only bound to it by commanding necessity."

Enriching the Root-soil of Trees.—When I was a boy and went to school, I delighted in planting stocks and "working" them, and I remember most distinctly a sort of freak of mine when about ten or twelve years old. It was to plant a plum stock in leaf-mold to see what the result would be, and I remember, too, it did not turn out to my expectation, especially in producing wood; but the leaves were two or three times as large as those in the ordinary soil, very much darker in color, and very glossy; and then in the autumn, boy like, I must take it up to see what the roots were like, and this was the greatest surprise, for not a root had gone beyond the leaf-mold, but in such a crowded mass as I had never before seen—and this

one incident has been of great use to me, even up to now. When I used to practice "tree-lifting" I found similar results. A good compost or manure added freely to the soil in which the trees were put back produced but little wood comparatively, but the wood that was produced, very "short jointed," and very stout leaves, too, very large and dark, and flower-buds in abundance.—*Gardener's Chronicle.*

Death to Phylloxera.—August Mann, a Californian, publishes the following remedy for vines affected by the phylloxera, which he says he has discovered and has tried successfully in his own vineyard: "To twenty pounds of wood ashes add one pound of salt and one pound of common soap dissolved in water; put in a boiler, add five gallons of water, boil ten minutes, stir in the meantime; when cold apply it all over the trunk of the vine up to the new sprouts with a brush. Rub off the loose bark before applying it. This remedy kills the insects on the leaf, the producers of the root-louse, and its cheapness recommends it to all."

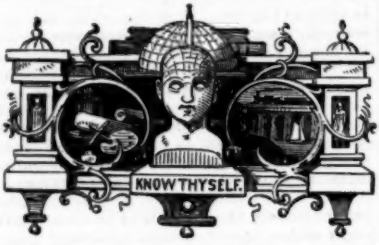
Predictions of Locust Visitations.—The Territories, and recently admitted States, which are more generally afflicted by locusts than the older Western States, were recently visited by Professor Packard, who collected personally and derived from farmers and others a mass of new information concerning the ravages of these destructive insects. This, with new observations on the habits of allied locusts in New England, will enable him to extend our knowledge of the distribution of this destructive locust, and will in great part furnish data from which he can begin the construction of a map indicating in colors its distribution and migrations. By conference with Professor Abbe of the Weather Signal Bureau, the facts observed seem to point to an intimate connection between the prevailing winds at different seasons and at different altitudes, which may offer an explanation of the astonishing extent of the migrations of locusts eastward, and the return in swarms westward of the succeeding generation born in Kansas, Wisconsin, etc. It is the conclusion from study of the migrations of the locusts in the Rocky Mountains region that their periodical visits probably coincide with unusual seasons, and that there are cycles of years recurring favorable or unfavorable to insect life; and it is believed that it will yet be possible to predict the arrival of injurious insects, and so render it possible to provide against depredations by them. The *Boston Globe* is of the opinion that if we shall be able to predict a visitation of locusts on such a year in Kansas or Nebraska, for instance, from meteorological phenomena occurring in the territories to the westward, then farmers can omit such crops as are most sought after by them, and increase those less liable to their ravages, and store them up for a year of famine, as did the ancient Egyptians.

Frost-proof Cellars.—We have often wondered at the indifference of farmers to the condition of their cellar walls, especially as their vegetable stores must suffer from the frost which the openings permit to have effect, and the family rooms are rendered more or less uncomfortable and unhealthful, in spite of big fires. A writer on the subject, who addresses himself to those who are in the habit of doing something toward stopping the holes in the wall, advises: "In looking to see how the frost gets into the cellar, one will find it is driven in by wind through cracks in the walls more than by the frost penetrating the wall, so that a thin wall made air-tight is more efficient than any amount of material would be if the air can penetrate it. And to learn whether there is danger of the cellar freezing, one has only to go on a windy night with a lighted candle, holding it along the inside of the cellar wall to see if the wind blows in enough anywhere to flare the light. If it does it will drive in the frost on a cold, windy day, and nearly all cellars will be found to be more airy in this way than the proprietor had been aware of.

"Now, as keeping out the wind will, in most cases, keep out the frost, I do that most effectually by putting on a good coat of mortar, plastering completely over the inside face of the wall, smooth work, and have it put on well up the sides of the sills, all around, so as to be sure and exclude the air from coming under them. Then by pointing up the outside face of the wall a little, if it needs, the cellar will be found to be nearly frost-proof. This should be done at least one or two years after it is newly built, after the season-cracks are opened; then the work will be most effectual. The best time to do the job is generally early in the summer, when the cellar is empty. Then clear everything from the walls, and brush them off with an old broom. Mix up a good bed of mortar on the cellar bottom, if there is room, and after letting it stand a few days to make, a mason can slap it on and spread it on the walls in a short time, making a nice job, and one more effective than any plan of banking up."

Open and Close Barns.—It has been the custom to side up barns with green boards so that in shrinking they will leave wide cracks for the access of air to the haymows. An important principle has been here overlooked. Fermentation, like combustion, requires oxygen to carry it on. Many farmers have learned that manure will ferment when well trodden so as to exclude the air, and that it seldom firefangs when thrown where cattle can tread upon it. The class above all others interested in grass and hay is dairymen. They have ascertained by experiments directed by science, that hay will keep better in clapboarded or battened barns than in the open stack. That the heating will be so moderate as to only dry out the hay without moulding. If this is a fact

that hay may be safely put into a large mow in a tight barn less cured than ordinary usage requires, it is a very important fact for farmers, as it will enable them to gather their hay crop quite independent of the vicissitudes of the weather, for even when the hay is in the cock the interior surface is injured by the rain or dew.—*Rural Home.*



MRS. C. FOWLER WELLS, *Proprietor.*
H. S. DRAYTON, A.M., *Editor.* N. SIZER, *Associate.*

NEW YORK,
MAY, 1877.

WIDTH OF HEADS--Destructiveness.

A CABINET COLLOQUY.—NO. IV.

VISITOR—I have been informed by a medical friend that the difference of width in different heads is mainly due to the variations in thickness of the bone and integuments. If this be so, your system lacks validity in a very important particular. I have been looking at those casts of murderers—a very brutish lot they are, to be sure!—and find their heads to appear broader than those on either side of them, with some exceptions. But give me your opinion.

Heads differ in all anatomical respects—in quality and texture of brain, membrane and bone, in length, breadth, and height, and in that superficial expression which we call contour. The phrenologist who is competent to make a proper analysis of character can estimate almost at a glance the relative thickness of the skull and of the integuments, and thus approximate the precise volume of the brain. A person with a very coarse, fibrous organization may have a cranium whose thickness borders on one-quarter of an inch, but the average thickness among Americans is near one-eighth of an inch. Here is a skull, for instance, of a man of fine organization, but average culture, which is very thin, as you can judge by its lightness. The greater part of the bone does not exceed the one-sixteenth of an inch. Here is the skull of an Indian, from Scottsville, N. Y. You can see that it is but a little thicker, although the quality is quite inferior to the other. Here is another, sent to us from Olustee, Florida, and probably that of a half-breed. You can perceive at once its coarse structure by the grainy surface and spiculæ and modules of bone, and by its extraordinary weight, as compared with those others. This appears to be about three-sixteenths of an inch thick.

Visitor—Yes, but does not the bone vary in thickness?

It does, according to the development and activity of the different organs. If you will put your eye to the opening in the base of the skull which you hold in your hand, and bring the skull between yourself and the window, you will observe translucent spots here and there, or in some special region, showing that the bone is thinner in some places than in others. You see that the skull which you are now looking into is thinner near the auditory openings, and in the region of the forehead, than it is elsewhere—an indication that its owner, in life, was characterized by much physical energy and intellectual activity; that his motives were selfish in the main, and not inspired by those noble sentiments which reside in the upper portion of the brain.

But the differences among heads in length and breadth are considerable. Your medical friend—like other persons who have not given special attention to the characteristics of the head and face—entertains only the general opinion, that the variations in the size of the brain are trivial, and may be accounted for by the variations in the thickness of skull and its exterior investment. Let me show you how the facts agree with him. Here is one skull—applying our calipers, it is seen to be six inches wide. Here is another, which looks broad, too, as we hold it in our hands; it measures not quite five and a half inches. I would say that the bone of this latter, being of much finer quality, is not as thick as the bone of the one first measured by one-sixteenth of an inch. Making that allowance, we find an absolute difference of almost half an inch in the width of the brain, and both skulls belong to the broad class. Here is a narrow skull. Measuring it, we find the breadth to be four and three-quarters inches—an inch and a quarter less than the first one we measured.

So, too, when we measure the length of skulls or heads, we find variations even greater than in the breadth.

Visitor—Here are the casts of men whom the world esteems—John Quincy Adams, W. L. Marcy, Napoleon Bonaparte, William Pitt, Dr. Geo. McClellan, Dr. Thos. Chalmers. It seems to me that their heads are as wide as those in that row of murderers. You impute that width, I believe, to development of the organ of Destructiveness. How do you account for the difference in their characters?

By the differences which are palpable enough in their organisms. You perceive that nearly every one of those casts of murderers is lacking in the upper and forward portions of the head, while the lower and back parts are predominantly large. Now notice the casts of the heads you have mentioned by name, and you must at once perceive the great difference in the development of the superior and anterior parts; in the balance of organization. Destructiveness is an unfortunate term, we think, for it expresses the abnormal or perverted influences of the organ. One might with equal propriety designate the organ known as Benevolence by the term Prodigality. Dr. Gall made two or three mistakes of this sort, and so brought upon his system much opprobrium, and greatly embarrassed its promulgation. He was unfortunate enough to name the organ which we improperly call Destructiveness, Murder, because he found it so predominant in the heads of the worst criminals; and Secretiveness, Theft, for the reason that it is usually prominent in those given to robbery. We, of course, must make allowance for mistakes committed in the height of his enthusiasm and zeal as a discoverer of new and grand principles. The world of mental truth which was so suddenly opened to him, would have disturbed the equilibrium of the gravest intellect.

The function of Destructiveness appears to be that of inspiring energy, thoroughness, and executive capacity. One who is small in this particular lacks the enterprise and vigor which are necessary at times for overcoming difficulties and conquering success. When he finds obstacles in his pathway of effort, he loses heart and gives up, with the lament, "I can't do it." Your man with large Destructiveness, however, will often be inspirited by opposition, and go persistently on toward his object. In some departments of life, some callings, a good endowment of Destructiveness is essential to skill. We do not know a surgeon of reputation who is not well marked in this respect. Look at Dr. McClellan's head.

You see it is pronounced enough. And it is said that he actually delighted in performing a surgical operation. I infer from his organization that his pleasure consisted mainly in the gratification of two organs, Destructiveness and Benevolence. The performance of the operation exercised in a legitimate way the function of Destructiveness, in coöperation with the intellect and Constructiveness, while the thought of being able to cure or relieve his patient was a matter of enjoyment to his benevolent feeling. He attempted operations which other surgeons shrank from, and rarely failed to benefit the patient. When you meet a physician with a head that is narrow between the ears, you can rate him as wanting in the quality which fits men for emergencies. He may be gentle, kind, sympathetic, winning, adapted to plain, routine methods of treating sickness, but he will have no forceful energy, no decided expression of individuality. So it is with men generally who are lacking in this element.

Should you come in again, and we have the leisure, we shall be pleased to consider any other questions on this very interesting subject of the influence of Destructiveness, or on any other which may occur to you.

BLUE GLASS.

WE could not avoid making some mention of the almost mania which General Pleasonton's declarations have occasioned with reference to the wonderful effect of sunlight when filtered through blue glass upon vegetation and animal life. Here in New York, glass dealers have been driving a profitable trade in vitreous plates, tinted *a la Mazarine*, for domestic uses; the people, doubtless, thinking that so simple a remedy for the ills to which flesh is heir—involving no inconvenience to the stomach, like the pill and the draught; and if tried on a small scale, even less expensive than a single visit of the society physician—is worth a little personal consideration.

According to General A. J. Pleasonton, invalids suffering with nervous disorders, dyspepsia, prostration from accidents, rheumatism, fevers, have been cured by exposure to sunlight passing through windows in which were sashes having panes of blue and white glass, alternately inserted. He does not tell us whether these invalids were accustomed to live much in the sunshine before their experiments with the tinted glass; or, like most valetudinarians unaffected by some new sensation, passed most of their time toasting their shins by the fire, with the windows tightly closed and the shades drawn down. We know, and every hygienist knows, the vivifying influence of sunshine. No plant or animal can be vigorous and robust without it, and in this principle of healthy being, we think, consists about all that is wonderful in General Pleasonton's assumed discoveries.

Many years ago scientists of Europe experimented with the colors of the spectrum, to ascertain their different influences on the growth of plants; and their researches, particularly those of Beaudemont, from 1850 to 1860, have, as an ultimate, that for the production of flowers and fruit, the unadulterated sunlight, as the Creator has given it to us, is best. It was found that each color has its particular function—that of the red being the development of the green coloring matter in plants.

We can conceive instances of weakness or peculiar susceptibility, to which the full power of sunlight would be oppressive and harmful, and for which some shading, effected by the interposition of blue or green glass, or the open foliage of trees or vines, would be found appropriate. To weak

eyes, glasses which will shut off a part of the brightness of sunshine are agreeable; but healthy eyes experience no inconvenience in the full illumination of the sunbeams.

For our part, we welcome the blue-glass sensation, as it may have the effect of making people generally acquainted with the salutary influence of sunlight on morbid physical and mental conditions.

ANDREW LEIGHTON.

OBITUARY.—We are called upon to record the death of another friend, one who for many years was an efficient actor in the field of Phrenology. Mr. Andrew Leighton died on the 14th of January last, at his residence, on High Park Street, Liverpool. His health for some time previously had given his friends much anxiety, but it was not thought that the fatal stroke would fall so soon, although he was somewhat advanced in life. Few men have the qualities for winning friends which Mr. Leighton had. He was a fountain of sympathy, counsel, and manly strength to the community in which he dwelt. In the course of his life he filled a multitude of duties with accuracy and efficiency, at all times being ready to serve others, and, if necessary, to make sacrifices of his own time and convenience for their sake.

Early in life he felt drawn to Phrenology, and was associated with some of the more prominent advocates of the science. He was very friendly toward its American exponents, and one of the first to welcome to the shores of Britain the former publisher of THE PHRENOLOGICAL, when, in 1860, in company with Mr. L. N. Fowler, he crossed the ocean to make the tour of England, Scotland, and Ireland. We have had occasion to notice the departure of several earnest and efficient agents in the cause of truth and humanity, but the loss of none has affected us more deeply than that of Mr. Leighton.

SENSIBLE, TO SAY THE LEAST.

THE New York *Herald*, in its edition of the 21st of March, publishes an account of "A Novel Test of Woman's Ability to Preach," by which it appears that a lady of eminent reputation in the Universalist Church was examined by a professional phrenologist in the presence of a large audience. Events had previously occurred which appear to have brought her fitness for the priestly office into question with some, but the opinion of the "professor," to whom the matter of her mental capacity was referred, seems to have had a conclusive effect upon the minds of those present at its delivery. He said "she possessed all the mental, moral, and spiritual powers that made her an excellent occupant of the pulpit. Her courage was such as to enable her to stand up with firmness in defense of the truth and opposition to wrong. She was honest in a high degree, and could not be a bigot. If the pulpits of Europe and America were filled with women like Mrs. —— the world would be much better."

Knowing the lady very well, we are ready to believe all this; for she, in mental culture and intellectual strength, stands head and shoulders above many men occupants of the pulpit.

A brief editorial comment in another part of the *Herald* alludes to this "novel test" as an instrumentality, which might be applied in civil service reform, includes this statement: "The President of the United States, instead of crazing his brain over the comparative value of the recommendations of rivals for any desirable office, need only

tap his bell for his private phrenologist, and straightway the best man will be designated."

Furthermore, as if in approval of the suggestion, the editor adds: "If all postmasters and collectors have phrenologists assigned to them for duty, the unscrupulous will know better than to apply for positions. Slate makers in local politics will find the same plan useful; for, in spite of their experience, they do not always nominate as incompetent and dishonest men as a careful phrenological researcher might discover."

We have reason for thinking our new President not unfriendly to the science of character, but we opine that the fears of incompetent office-holders, and the jealousy of politicians, would raise too many obstacles to its direct introduction at the present state of public affairs.

THE TELEPHONE.

ANOTHER sensation of the day is this new instrument, which the telegraph has developed from its world of wonders, with the assistance of Mr. A. G. Bell. The reader has doubtless heard of it. But does he think of the revolution which it will likely bring about in the practical working of the electric wire for the purposes of correspondence? The experiments thus far made show that this simple attachment of a funnel or cylinder with a vibrating cover on one end could render words spoken at one place distinctly audible at another place two hundred and eighty miles distant, and it is thought by those interested in the new invention, that further improvements will adapt it to the transmission of sound for any distance, and render it easy for friend to communicate with friend without the intervention of a little instrument whose tickings must be translated into ordinary language by a trained operator.

The age is freighted with miracles of invention and thought. Who can deny, in view of the accomplishments of man, that there is something in his mental constitution which is akin to the creative. Space and time present no obstacles which his fiery genius can not remove, offer no problems which his mighty reason may not resolve. The triumphs of science and research, as one by one they burst upon our startled sense, illustrate with mighty emphasis the grandeur of the truth that man is the lord of the earth.

DOCTOR vs. DRUGGIST.

THERE has been some stirring up of an old matter lately, which interests druggists and those physicians who prescribe with paper and pencil. It may not be generally known out of the trade that many physicians receive a certain percentage of the price of the compounds which are made up under their direction—an agreement to this effect being entered into between them and the druggists. It is not likely that the latter are the losers by it, as their charges for prescriptions are notoriously high—the patient being expected to pay enough to cover both profit and the "consideration" which the physician expects. The remarkable increase in the number and variety of patented and officinal medicaments, which has been a marked feature in the drug trade during the past few years, indicates not only the tendency of the masses to "doctor" themselves, but as the pharmacists say, a reaction against the expensiveness of professional treatment, and of medicines prepared to order. A correspondent of the *Druggists' Advertiser*, in the course of a letter relating some of his experiences in the trade, says:

"I feel individually called upon, as I for some time have been guilty of practicing in the way of 'counter prescribing' (repeating a prescription without the authority of the physician), to which I was forced by the greed, avarice, and ungentlemanly demeanor of some of my neighboring M.D.'s. When a young beginner, a few years ago, starting a drug store in a part of this city where I was entirely unknown, a stranger among strangers, I solicited the assistance and patronage of a physician who, shortly thereafter, so imposed upon me that his demands by far exceeded the profit made on the prescriptions he sent to me. You have often heard people complain of druggists being in league with physicians who pursue a system of robbery and outrage upon the suffering public, and I leave it to you and your readers to decide whether this report is altogether without foundation or not. I, for my part, would never take advantage of my customers, nor yield to the freaks of a selfish member of the medical profession."

In the columns of the New York *Times*, some time in March last, a Brooklyn druggist makes a similar charge against the medical profession, and intimates that the custom of demanding commissions may increase the income of some doctors, but is rapidly reducing the prescription part of the druggists' business.

No comments of ours are necessary to show how mean and disreputable a course this mode of "making" money is, and that people are driven to rebel against it or its resultant extortions, who can wonder? Such measures, however, together with the honest efforts of the few noble physicians whose heads are above sham and trickery, tend to the enlightenment of the public with reference to the uselessness of drugs, and the adoption of methods of purification and nutrition which shall render diseases rare which are now common.

JOCOSE?—Under the caption of Pleasantries, in a late number of one of the leading religious weeklies of New York, we find the following items:

"An honest blacksmith, when urged to start a libel suit, answered, 'I can hammer out a better reputation on my anvil than all the lawyers in Christendom can give me.

"A counselor at Rome was strangled by a hair in the milk which he drank. This event caused the most serious results of anything that ever transpired in his family.

"Anacreon, one of the lyric poets, is said to have lost his life by swallowing the skin of a raisin. The world then lost one of the most illustrious poets and writers.

"A little gnat choked the great Pope Adrian to death, which caused wonderful changes in the history of the whole world.

"No labor of love can, by any possible combination of unfavorable circumstances, be lost. 'Forasmuch as ye know your labor is not in vain in the Lord.'"

If these be some of that editor's jokes, what a power he must be in his serious moods!

PERSONAL EXPERIENCE.—A veteran teacher and student thus writes to us:

"Allow me to say that during the thirty-three years of my life which have been spent in giving instruction to the young, Phrenology has aided me more than any and *all* other 'guides' in controlling *myself* and those committed to my care. Large Firmness, aided by Conscientiousness and Benevolence, saved the necessity of using the 'rod,' which is so often used as a safety-valve for the escape of anger. L. P. R."

Our Mentorial Bureau.

[In this Department will be noticed such matters as are of interest to correspondents and to the general reader. Contributions for "What They Say" should be brief, pointed, and creamy, to secure publication.]

To Our Correspondents.

THE PRESSURE OF OUR BUSINESS IS SUCH *that we cannot undertake to return unavailable contributions unless the necessary postage is provided by the writers. In all cases, persons who communicate with us through the post-office should, if they expect a reply, inclose the return postage—stamps being preferred. Anonymous letters will not be considered.*

QUESTIONS OF "GENERAL INTEREST" ONLY *will be answered in this department. But one question at a time, and that clearly stated, must be propounded, if a correspondent shall expect us to give him the benefit of an early consideration.*

IF AN INQUIRY FAIL TO RECEIVE ATTENTION *within two months, the correspondent should repeat it; if not then published, the inquirer may conclude that an answer is withheld, for good reasons, by the editor.*

SOMEWHAT INTOLERANT.—R. J. B.—We think that you are lacking somewhat in patience. You should not be so easily annoyed, or thrown off your balance when people do not appear to understand your meaning. The discipline of endeavoring to make a point clear to another when that other may seem to be obstinately stupid, is excellent; in fact, instructive. It helps you to improve your phraseology, so that you can speak with more definiteness. Of course, behind the expression is the exercise of the mental faculties, and such discipline whips them into order, and compels them to contribute their part toward the exposition of your views.

We can not say why Fowler's journal was suspended.

"WITHOUT A SOUL."—In reply to several inquiries we would say, that we account the article entitled thus without any real warrant or foundation. Now and then extraordinary tales of scientific experiment find their way through the papers, but are meant as witticisms at the expense of some theory or savant. To be sure, the minuteness of the account is convincing in its way, but that shows, as in some of Poe's sketches, the familiarity of the writer with scientific methods.

LIVER COMPLAINT.—Most diseases of the liver are easily treated dietetically, slight changes in the food being productive of benefit. Derangements result mainly from the excess of carbonaceous or heat-making substance in the food, which clogs the action of that great gland, and renders it unable to perform its proper function. Treatment differs according to the difference in diseased condition. If you will send us particulars with regard to your trouble, we shall endeavor to give you a few hints of service to you.

CURE BY CRITICISM.—J. H. F.—The idea is by no means new; it has been practiced for some time in the Oneida Community. You will find the matter pretty fully considered in a little pamphlet, entitled "Mutual Criticism," published by the Community. Any normal method which will produce reactionary movements in the system are usually beneficial to the sick one. Certainly the method adopted by the Artist's Club mentioned, is superior to the administration of drug-poison. It arouses the mind as well as the body, and dispels the sluggish inactivity into which the functions have fallen.

NAST.—You will find a pretty full sketch of this well-known humorous artist in the October number of the PHRENOLOGICAL JOURNAL for 1867.

SCALP MOVEMENT.—N. W. L.—Some persons possess the power of moving the scalp, while others do not, just as some are able to perform very difficult acrobatic feats which others dare not attempt. It is due to peculiar muscular mobility. Better control over muscles of certain parts of the body by almost everybody may be obtained by practice.

SENSITIVENESS.—Le Miserable is by no means alone in his infirmity. We have frequent occasion to communicate what we can in the way of counsel to persons afflicted, like himself, with abnormal nervous sensibility. We think that in Le Miserable's case it would be well for him to retire from a pursuit which compels much in-door confinement. Contact with sun and outer air, and an active muscular vocation would tone up his body and give him more physical vigor. He needs bodily strength as the foundation for nervous equilibrium. If he be inclined to dyspepsia, that in itself is one reason for his sensitiveness. Why not go into the country and take part in the pursuits of the agriculturist, and so acquire strength? We can

scarcely conceive a high degree of manhood without a pretty good degree of physical energy. Many persons who would be great in their way are deplorably weak because they are lacking in vital strength, are sickly and diseased. In your associations avoid those who are rude, critical, severe; ask the sympathy of your intimate friends, ask for their encouragement and counsel. You need the ministrations of a good friend.

CATARRH.—Lieut. H. F. S.—We know that catarrhal affections can be best treated by hygienic methods. It is usually an inflammation of the mucous membrane. An article on the subject was published in the *Health Almanac* for 1875, which will furnish many hints of value in regard to its treatment. Price of Almanac 10 cents. We advise you to avoid all nostrums which are advertised with a great flourish of printer's ink. Send on your other questions.

DANDRUFF.—A very free condition of the excretory organs will produce dandruff unless you are careful to keep the skin clean. Accumulation of the scurf, however, may be due to more or less impropriety in your diet and other habits. The purer and better your food, the less there will be of work for the emunctories to perform, the less waste through the skin and other organs. Dandruff is not a sign of an unhealthy skin, except in its excess. As a daily dressing we advise the use of clean, tepid water and a good brush.

PASSIVE FACULTIES.—W. H. N.—Some men are well organized, yet they lack the power to exhibit the excellence of their organism on account of the want of correlation between the faculties of the intellect and the moral nature. There are persons whose mental condition in the moral realm is one of torpitude. This torpitude may be due to the character of their education and associations. Many a man has large arms, but is comparatively weak because he does not give them the exercise necessary for the development of the strength natural to them. You doubtless have met men who, although large and apparently strong-limbed, were, nevertheless, feeble pedestrians on account of sedentary habits; their muscles were large enough, but they lacked consistency, density, power, because they did not receive the use essential to manifestation of activity and power. Sometimes a man comes to us for examination, and we tell him he has large Constructiveness, ability to plan, invent, use tools; he expresses much surprise, intimating that he was not aware of the possession of such a quality. On inquiry we learn that his vocation has been one not adapted to its development. Upon our insisting that he would do well in a line which exercised such characteristics, he has gone away with an intention of making an experiment at least, and of ascertaining the truth of our declaration. In after time he has returned to us, and thanked the examiner for having opened the way to a new and better sphere in life. Many men appear to be dishonest who have a good degree of Conscientiousness, in an organic sense, but organs of a different class whose activity is predominant. There are men with large Benevolence, who, nevertheless, obey the influences of strong and active Acquisitiveness and Secretiveness, and do not show to the world a sympathetic and generous spirit.

IMPROPER MARRIAGE.—We can not advise you to marry into an epileptic family. Epilepsy is one of those nervous diseases which is transmissible, and usually appears in one form or other in children.

ELLIOTT BUCK, M.D.—Your article is at hand; can use it. Thank you for the interest shown to the PHRENOLOGICAL and the cause of truth.

What They Say.

"THE BLUES."—In this age of speculation, inflation, and contraction, "the blues" seem to have become a prevalent disease. Unlike other diseases, they do not attack people indiscriminately. Men seem more subject to them than women. The "blues" sometimes become chronic; this stage of the disease is marked by a general downcast air, and a sort of "touch-me-not" temper, that engender discomfort to all around, and cause a dull, unsocial family circle. Smokers usually tell us "there's nothing like a cigar or pipe of tobacco to drive away the "blues;" while others recommend "a chew," and the moderate "temperance" man prescribes a glass of ale or whisky. Yet that these "remedies" utterly fail, is palpable enough; you have only to look around you to perceive that smokers, chewers, and drinkers are more subject to their attacks than any other class; in fact, they seem to be alarmingly epidemic among them. The moment his pipe is gone, the smoker becomes subject to their attack, only to fly to his pipe again for relief. Deprive your "moderate" man of his customary stimulant, and he is even more helpless than the other without his tobacco. The truth is, these habits breed more "blues" than all the real troubles that we have. Real sorrows we may surmount, and soon reach the good instead of the evil; but evils that are bred in the imagination and nourished by morbid habit, are too likely to become deeply rooted and

cast their gloomy shadows over the whole life. It is enough that we should share our real trials with our loved ones, without inflicting upon them ideal and vicious ones too. There is, however, one helpful course for "blues." Stop your chewing, smoking, or drinking, if you have any such practice, and try to do all you can to make every face around you cheerful. You can't do that without carrying a cheerful face yourself; and you will be surprised to find how far the "blues" are a chimerical disease, that will vanish as readily as the smoke from your once beloved pipe. MRS. M. M. B.

IN THE WOODS.—Reader, are you tired of the cares and toils of city life, and do you sigh for an elixir for over-taxed nerves and brain? Then hie you away with me to the woods, to the grand primeval forest, where the great physician, Nature, waits to welcome you. Here in this sylvan dell is a grotto—just room enough to sit, or lie with head reclining against that gnarled old tree, or cosily ensconced upon this clump of moss which is

"Loitering atween
Its russet gown and emerald green."

Ah, how cool and refreshing is the breeze, how restful and quiet is all around! The wind sighs through the trees with its old, musical murmur; the sun smiles upon you with mild unobtrusiveness. Nothing seems to be in haste, save the pebbly-brook, which rushes down from among the hills yonder to join some sister brooklet in the valley below.

Moments glide into hours as we sit drinking in the blessed peace of this lonely dell. This is what you need—rest and quiet. The pain is gone from your throbbing temples, and your nerves thrill with a new life. Now you can open your eyes and observe what is going on about you. "Nothing to observe," did you say? We will see. The noisy brook attracts your attention. Its bed is covered with pebbles and boulders, and out in the middle of the stream, on a projecting rock, sits a bird of sober hue, thrusting his head into the water with a sort of dipping motion, now half immersing himself, and now darting entirely out of sight, and as quickly re-appearing. You never saw a bird that so loved the water? A mistake. It is not so much the water that he loves as what is in it. He is an industrious little fellow, and is getting his "grub" now, or perhaps providing for his family. He is called the water ouzel, or dipper (*cinclus aquaticus*), and a clean, trim-looking fellow he is, as who would not be with such constant bathing? He inhabits mountainous districts, and haunts these clear, rocky-bottomed, swift-running streams, from whence he gleans his food, which consists of small fishes and insects. His color is of a dark blue, mingled with black, and his size about that of the American robin. He belongs to the same family—the Thrush—and is a sort of second cousin to the American mocking-bird (*Orpheus polyglottus*), the black-bird, the song thrush (*T. Musicus*), and to the field fare or gray thrush (*T. Pilaris*), yet, unlike them, is not noted for his musical talent. He belongs to the order of incessores, or perchers—the highest rank in bird-world—and so called from the peculiar construction of the feet, which enables them to cling about branches and twigs of trees and rest upon them. This is an interesting little bird, and doubtless has family secrets, which I feel inclined to pry into, as he surely could a *tale* unfold if he would. I have never yet found his hidden treasure, but have no doubt it is close by, and that he there attends to his family duties, assists in rearing the young, and maintains the dignity becoming a *pater familias*. You still sit watching his graceful fluttering motions, envying him his quiet, busy life, until he flies away, perhaps to carry his mouth full of bread to the children. So much you have seen "going on" in this busy work, and you may have caught the idea that nature is never idle, and that rest is only another kind of action.

OLIVE A. DAVISON.

"DIED YESTERDAY!"—Every day these words are written, and every day homes are darkened, and souls penetrate the mysteries of the great hereafter. Every day weary, aching hearts find that rest in the grave for which they yearned so vainly here, and every day strong hearts, not yet grown weary of the march of life, are summoned by the white-winged messenger, Death. "Died yesterday!" An aged pilgrim, on whose hoary head had fallen the snows of eighty winters, who after treading long years with bleeding feet the "narrow way," has been welcomed home with the words, "Well done, thou good and faithful servant." "Died yesterday!" A bright and joyous maiden, who fain would have lingered yet a little longer on earth, for life to her has ever been a sunny dream. "Died yesterday!" In a miserable garret, all alone, the wreck of a once noble man. Pursued and driven by the fierce fiend Alcohol from home and friends, from wealth and honor, down the steep road of ruin, till after long hours of agony, remorse, and grief, in the silence of midnight, with no loving hand to smooth the dying pillow or close the glazing eye, the struggling spirit burst its fetters and soared upward beyond the stars. "Died yesterday!" In all its purity and innocence, a little child, whose stay on earth was so short that the look of Heaven never left its eyes. On its grave should be written, "Gone in the morning; and there's no night there." "Died yesterday!" In the cold, dark street, one whose soul was once as pure and white as yours.

What are you that you should draw your dainty wrappings more closely round you and pass so scornfully by. That scornful glance may plant another thorn in the already crushed and bleeding heart. If you are pure, it may be because you have never been tempted. Were you to meet half the temptations that poor soul has encountered, you might have been now fathoms deeper in the dread abyss. You, too, might have pressed your throbbing brow to the cold curb-stone and prayed for death and even annihilation.

"Alas! for the rarity
Of Christian charity
Under the sun.
Oh, it was pitiful,
Near a whole city full,
Home she had none!"

"Died yesterday!" How soon may these words be written of us, and how soon may we be sleeping the dreamless sleep. "Died yesterday!" they will say, then breathe our name, and go on their way quite forgetful that perhaps the morrow's breeze will bear away the same words spoken of them. To-day we are, to-morrow we are not, yet the world goes on still the same.

F. E. ARTHUR.

ONE DRAWBACK TO HYGIENIC PROGRESS.—One of the greatest drawbacks to the hygienic system, is the failure on the part of the physician to convince the patient that a rigid and abstemious diet is the one best suited to aid in his recovery. The latter looks about him and sees those who indulge freely in the use of pork, tea, coffee, and all kinds of condiments, apparently tough and hearty. Then glancing at himself, a poor, weak, emaciated invalid (in most cases the result of similarly bad living), he is in nine cases out of ten, led to regard dieting as a farce and humbug; and losing faith in one point, he naturally will in others, so that in many cases all faith is lost; and the result is, Hygiene has another opponent, and the drug-men another patient to experiment upon. Many people are becoming dissatisfied with the drug system of medication, and would be ready and willing to accept the hygienic if they were only allowed to indulge in every kind of food that their depraved appetites called for. It is the opinion of at least two-thirds of the people that it is impossible for any article of food taken into the system to cause any harm, if it causes no uneasy sensation in its passage through the alimentary canal. They know, perhaps, that some articles of food, like fine flour, are constipating, and, therefore, are considered slightly injurious. Not being conversant with physiology, they can not understand, without a thorough explanation, why it is that pork and all kinds of condiments are injurious if taken into the system This one idea, and this alone, is the hobby, that nothing is injurious if it does not immediately disturb the digestive organs.

It is impossible to make the public accept a new theory, no matter how much benefit they may derive from it personally, if we can not explain it on scientific principles, and also succeed in convincing the majority of the truth of those principles. Therefore, in order to have the hygienic system a success, it must be explained minutely in every respect, especially what relates to diet. It must be explained simply and plainly, that many articles which are taken into the system do not apparently disturb the stomach, but when absorbed into the blood, have a tendency to render it foul; and that they must be expelled through the various emunctories—skin, liver, lungs, etc. These organs being thus given an excessive amount of labor to perform, become weak and congested, and fail to do their office; hence arise various diseases, both acute and chronic.

It must be explained how it is that many can bear things that are in abnormal relation to the vital organism, and others can not. It must be explained that those whose occupations compel them to be much in the open air, expel morbific agents from the system easier than those of sedentary habits. It must be explained why those who are afflicted with chronic diseases, and are obliged to be careful in regard to their diet, rarely have acute diseases, like fevers, inflammations, etc. These are among the points which appear difficult for the people to comprehend, and as soon as they are informed upon them, we may look forward to the time when the drug system shall lack support, and injurious articles of food be dispensed with.

ELLIOTT B. BUCK, M.D.

WHAT WILL BE THE FINAL RESULT?—Are we advancing, or are we receding? In other words, is the world in general slowly, but surely, approaching a state of perfection morally and socially, or is it, on the contrary, dropping back toward a total depravity? Most persons would, no doubt, claim for mankind that grand and never-ceasing progression, of which we hear so much from the philosophers and sages of to-day; and they would probably be correct in their imputations to a certain extent, for it is undoubtedly true that the world, or a large portion of it, is progressing rapidly toward a degree of perfection in "wisdom" and art that astonishes itself.

But while it may be gratifying to realize this truth, still it must be admitted that a great part of mankind is lacking in that honesty and virtue that tend to add to the happiness and enjoyment of life. The American people thirst for fame; and in the rush for notoriety, many lose sight of the grand principles which underlie human hap-

pliness, and which are the foundations of society. Ours is a country which affords rare opportunities for ambitious and designing persons to rise from the low and vulgar paths of life to the highest positions of honor and emolument, and it has become a common saying with such that "money will do anything;" that it will loose the halter, open the prison bars, or elevate the lowest individual to the highest circle.

We appear to be far from the solution of our problem, "What will be the final result?" but it may be hoped that the world will experience at some period in the future a grand and sweeping reform. May it not be that a bright and glorious millennial will suddenly burst upon the sombre world, and mankind will rise in desires and ambitions far above the earth, and every man will love his neighbor as himself? A. D. J.

WISDOM.

"Think truly, and thy thought
Shall be a fruitful seed."

When God endowed human beings with brains, he did not intend to guarantee them.

When a man has no design but to speak the truth, he may say a great deal in a very narrow compass.

The wealth of a man is the number of things which he loves and blesses, which he is loved and blessed by.

Great minds, like heaven, are pleased in doing good, though the ungrateful subjects of their favors are barren to return.

We can not conquer fate and necessity, yet we can yield to them in such a way as to be greater than if we could.

The world is a looking-glass, and gives back to every man the reflection of his own face. Frown at it, and it will in turn look surly upon you; laugh at it, and with it, and it is a jolly, kind companion.—Thackeray.

Too much of joy is sorrowful,
So cares must needs abound;
The vine that bears too many flowers
Will trail upon the ground.

—Alice Cary.

He who, with strong passions, remains chaste—he who, keenly sensitive, with manly power of indignation in him, can be provoked, can yet restrain himself and forgive—these are strong men, spiritual heroes.—Robertson.

Accustom yourself to overcome and master things of difficulty; for if you observe, the left hand for want of practice is insignificant and not adapted to general business, yet it holds the bridle better than the right, from constant use. —Pliny.

Were a man to throw away a dollar every minute, he would be looked upon as a madman, and his friends would confine him as such; but a man who throws away his time, which is far more valuable than gold, may still pass for a wise man.

MIRTH.

"A little nonsense now and then,
Is relished by the wisest men."

Mr. Jones was advised to get his life insured. "Won't do it," said he, "it would be my luck to live forever."

Teacher (to little boy)—"Well, my boy, do you know your tables?" Pupil.—"Yes, ma'am; breakfast table, dinner table, and supper table." The boy goes to the head of the holiday class.

She asked him if her new dress wasn't as sweet as a spring rose, and the brute said it was, even to the minor attraction of still having a little *due on it*.

The following conversation is said to have taken place in a Third Avenue lunch shop: "Waiter!" "Yes, sir," "What's this?" "It's bean soup, sir." "No matter what it has been, the question is—what is it now?"

"Ladies and gentlemen," said an Irish manager to his audience of three, "as there is nobody here, I'll dismiss you all; the performance of this night will not be performed, but will be repeated to-morrow evening."

Two young attorneys were wrangling for a long time before Judge Knox, of Virginia, over a point of law. His Honor rendered his decision, and the sprig who had lost impudently remarked: "Your Honor, there is a growing opinion that all the fools are not dead yet." "Certainly," answered the Court, with unruffled good humor. "I quite agree with you, Mr. B., and congratulate you upon your healthy appearance."

Spit.—As the train stopped for ten minutes, and that individual who goes along tapping the wheels with his hammer was passing rapidly by the smoking car, one of the windows was hoisted and a torrent of tobacco spit was ejected which almost deluged him. The machinist paused for a moment, and wiping some of the streams from his person, said to the offender:

"Mister, what part of the country did you come from?"

"Me?" said the spitter, puckering his lips for another expectoration, "I come from Kansas."

"I thought so," said the machinist, "for if you had lived in Massachusetts or Connecticut they would have had a water-wheel in your mouth long ago."

Library.

In this department we give short reviews of such NEW BOOKS *as publishers see fit to send us. In these reviews we seek to treat author and publisher satisfactorily and justly, and also to furnish our readers with such information as shall enable them to form an opinion of the desirability of any particular volume for personal use. It is our wish to notice the better class of books issuing from the press, and we invite publishers to favor us with their recent publications, especially those related in any way to mental or physiological science.*

RELIGION AND SCIENCE: The Psychological Basis of Religion considered from the Standpoint of Phrenology. 12mo, paper, 20 cents. New York: S. R. Wells & Company, Publishers, 737 Broadway.

This neat pamphlet is worthy of an attentive reading by all who take an interest in that most important question of the day: Is Science in conflict with Revelation? Some months since, the publishers of the PHRENOLOGICAL JOURNAL AND SCIENCE OF HEALTH offered a premium for the best essay on the relations of science and religion, and from those prepared and sent in for competition, the above-entitled paper, by a well-known neurologist, of New York, was selected as possessing the most merit. It is a close discussion of the prominent points involved in the subject, introducing in its course the verdict of history, the psychology of nations, civilized and barbarous, the researches of scientists, and the testimony of the nervous and mental constitution of man. Its treatment is so comprehensive that the views of leading physiologists, like Professors Tyndall and Huxley, and of theorists, like Hamilton and Spencer, have a careful consideration. The whole pamphlet contains no single display of effusive rhetoric, but is calm, measured, earnest, declaring it to be the work of one whose method is that of the thorough scientist.

As a contribution to the cause of religious truth, this essay stands alone among publications in the same line for brevity, comprehensiveness, and argumentative vigor. To those in whom a knowledge of science has awakened serious doubts concerning the existence of a divine guardian in nature, this little work is cordially commended as quite competent to resolve their doubts and to help toward restoring that harmony and sense of moral comfort which are essential to human happiness.

The pamphlet is clearly printed on fine paper and costs but twenty cents.

OUR COFFEE-ROOM, by Elizabeth Cotton. With a Preface by Lieutenant-General Sir Arthur Cotton. 16mo, pp. 278, cloth, tinted paper. Price $1. New York: National Temperance Society and Publication House.

This is an English temperance story, or rather an account of the workings of an enterprise having in view the moral and intellectual improvement of the working classes. The scene of the story is one of the valleys of Surrey, where, notwithstanding the beauty of the landscape, sin had intrenched itself, and through the instrumentalities of strong drink had wrought much of evil and distress. A coffee-room was established. It can not be expected that he who has contracted the baneful habit of daily indulgence in alcoholic beverages can at once relinquish them without serious discomfort, without sustaining, in fact, a powerful nervous shock. A good physician casts about for a temporary substitute when he would have his patient give up the use of brandy or opium—something which, while less injurious, will, to some extent, compensate for the daily stimulant; which will, in a measure, sustain the nervous system against that terrible collapse of physical strength which ensues on a complete denial of the accustomed potations. Coffee, to a considerable extent, is a substitute, injurious enough in itself in its effect upon the nervous system; but it can not compare with the common alcoholic drinks in the measure of damage done to the habitual user. This coffee-room, instituted by a devoted Christian woman, led to wonderfully good results, and the record which the author has given us should encourage similar enterprises among the philanthropic. They who would be benefactors of their unfortunate neighbors, should give them pleasant gardens, entertainments, places of amusement, encourage a love of the beautiful, and thus elevate gradually the debased mind, the deformed taste and low pursuits of him who has been led captive by a destructive practice. The book should be widely read. Its suggestions are valuable for the consideration of the charitable in every community.

MARVELS OF PRAYER ILLUSTRATED by the Fulton-street Prayer Meeting, with Leaves from the Tree of Life. By Matthew Hale Smith, author of "Mount Calvary," "Sunshine and Shadow in New York," etc. Price $2, by mail, from this office.

Nearly twenty years ago it came into the head of an earnest Christian merchant, connected with the Old North Dutch Church, situated on the corner of William and Fulton Streets, New York, to afford an opportunity for an hour's quiet attention to things spiritual and religious to the busy community which surrounded that old edifice. He made a beginning, opened the church at the hour of noon for the attendance of all who felt inclined to mingle heart and voice in the exercises of prayer and praise, and although he sat alone through half of the hour of the first day, and little encouragement was given by the rushing tide of human life around him for several days, yet he was at length rewarded by an increasing attendance and a heightening interest until the noonday meeting in Fulton Street be-

came an institution widely known and a power in the land.

This well-printed and bulky volume is in one sense a history of interesting incidents associated with or growing out of the Fulton-street meeting, a record of many of its accomplishments in reforming men and women whose career was that of vice or irreligion or improbity. There are two hundred and eighty-eight paragraphs, each expressing a scriptural sentiment, following which is an account of one or more incidents practically illustrating it. To all who are engaged in religious or missionary work, this volume must be of utility, furnishing as it does so much of mature thought and real experience. The author has certainly done his part well, and thousands of people who joined in the harmonies of the noonday prayer are thanking the publishers for providing this renewal of their experiences there.

HEREDITY, OR RESPONSIBILITY IN PARENTAGE. By Rev. S. H. Platt, A.M. 12mo, paper, 10 cents. S. R. Wells & Company, Publishers, 737 Broadway, New York.

This interesting essay on the duties of husbands and fathers, prepared from a series of sermons by an eminent clergyman of Brooklyn, meets one of the wants of the day. Our people generally need sound instruction with reference to the conditions upon which mental and physical health depend; and from what better source may it be obtained than from the lips of a learned and earnest minister.

Constituting No. 2 of the "Science Tracts," published by a gentleman whose zeal and activity in the cause of popular reform are unquestioned, pure in tone and simple in treatment, this pamphlet should have a wide circulation, and a thoughtful reading by the married and single. The price—ten cents—commends it alone.

PUBLICATIONS RECEIVED.

THE ELEVENTH ANNUAL REPORT of the American Society for the Prevention of Cruelty to Animals. In a concise form the officers of this useful society present the work of the past year, which shows that in upward of two thousand instances the infliction of cruelty upon poor dumb beasts, especially horses, was prevented by its agents. The table of branches and associations of a cognate nature shows that nearly every State of the Union has one or more.

THE MONTHLY WEATHER REVIEW, for February, lately received from the chief Signal Officer, shows that the more noticeable features for that month were the severe storms which occurred between the 15th and 25th in different parts of the country. Continuance of warm weather experienced in the latter part of January, giving higher average temperatures than usual for all the districts except the South Atlantic and Gulf States. A deficiency in the rain fall, excepting Oregon; the absence of destructive freshets; the frequency of lunar halos, from the 20th to the 26th; and the hatching of grasshoppers in Minnesota, Iowa, Kansas, and Nebraska. On the 18th, a light shock of earthquake was felt at Portland, Maine; on the 17th, a heavy shock at Quincy, Cal.

SCIENCE AND ART OF EDUCATION. By Joseph Paine.

TEACHING COLOR. By Professor Norman A. Calkins. Being notes from lectures delivered before primary teachers of the New York Normal College.

THE KINDERGARTEN ENGRAFTED on the American Public School System: being Extracts from Official Reports on the Public Kindergartens Established by the Board of Public Schools of the City of St. Louis, Mo.

WASTE OF LABOR IN THE WORK OF EDUCATION. An Address by P. A. Chadborne, LL.D., President of Williams College.

HISTORY OF THE PHILOSOPHY OF PEDAGOGICS. By Charles W. Bennett, D.D., of the Syracuse University.

The foregoing five are the titles of a series of papers on education, recently published by Mr. E. Steiger, Publisher, of New York city. Coming as they do from gentlemen prominently connected with American education, no special comments of ours are necessary to impress the reader with their importance. Their prices are low—from three to five cents each.

THE KINDERGARTEN GUIDE: An Illustrated Hand-book, designed for the Self-Instruction of Kindergarteners, Mothers, and Nurses. By Maria Kraus-Boelt and John Kraus. No. 1.—The First and Second Gifts. New York: E. Steiger, Publisher.

This book will doubtless be welcomed by the public; the need of it having been experienced some years past by those interested in kindergarten methods of instruction—the cost of attaining the requisite hints from kindergarten teachers being very considerable, in most cases altogether beyond the means of persons desirous of adopting them in their work as teachers.

PEDAGOGICAL LIBRARY. Part Second. Contains an extended list of books on Education, General Philology, works of Reference, etc., in English, German, and French. Also by E. Steiger.

THE SPRING CATALOGUE OF NEW AND RARE PLANTS, for 1877: including Green-House and Breeding Plants grown and for sale by Storrs, Harrison & Co., Painsville, Ohio. A neat publication, well illustrated.

THE PEOPLE'S PULPIT, a weekly publication, containing Sermons by Stephen H. Tyng, Jr., D.D. We are indebted to the publishers for the current numbers of this weekly issue.